CURTIS'S

BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew,

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

AND

A SUPPLEMENT OF BOTANICAL AND HORTICULTURAL INFORMATION;

BY

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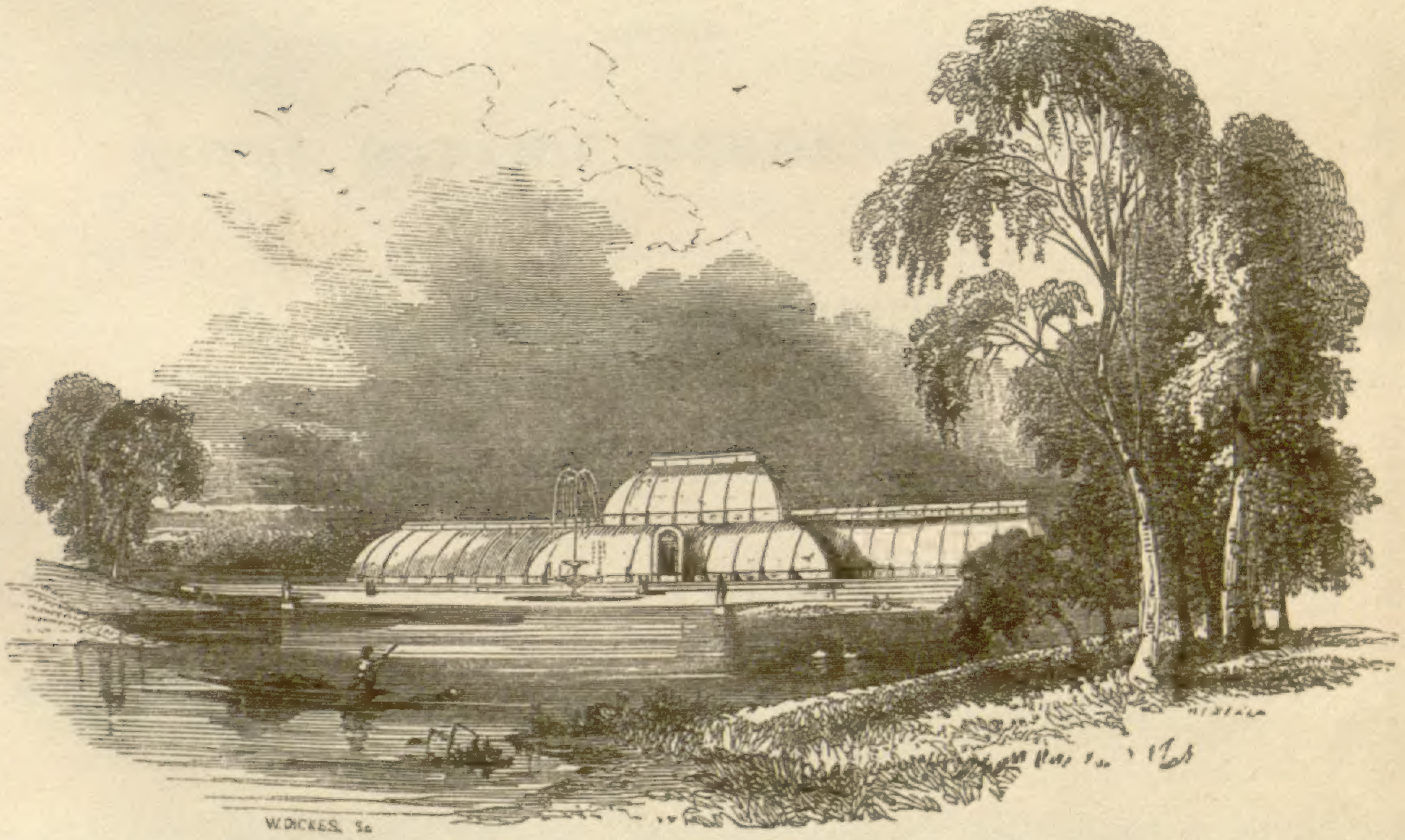
(*Or Vol.* LXXII *of the whole Work.*)



"There Summer reigns with one eternal smile."

LONDON:

REEVE, BROTHERS, KING WILLIAM STREET, STRAND.

1846.

SHOUT
SHARE
IT

To the Memory

OF

THE REV. JOHN CLOWES,

LATE OF

BROUGHTON HALL, MANCHESTER,

IN GRATEFUL TESTIMONY OF THE MUNIFICENT DONATION

OF HIS

COLLECTION OF ORCHIDEOUS PLANTS

TO THE

ROYAL BOTANIC GARDENS OF KEW,

THE PRESENT VOLUME

IS INSCRIBED BY

THE AUTHOR.

Royal Gardens, Kew,
Dec. 1, 1846.

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3

Tab. 4203.

PERISTERIA Barkeri.

Mr. Barker's Peristeria or Dove-flower.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4156.)

Peristeria *Barkeri*; pseudo-bulbis ovatis profunde sulcatis 3–4-phyllis, scapis pendulis multifloris foliis subæquantibus, floribus carnosis fere clausis, sepalis petalisque subæqualibus concavis obtusis, carpelli trilobi lobis lateralibus integris erectis, intermedio angustiore basi calloso, columna aptera breviter pubescente. *Batem.*

Peristeria Barkeri. *Batem. Orchid. Mexic. et Guatem. t.* 8.

The only figure yet given of this fine Orchideous plant is in Mr. Bateman's splendid work above quoted: but admirable as is his representation, even an imperial folio page does not suffice to render justice to this species of *Peristeria*. Its leaves are two feet long and are erect, or nearly so, from the summit of a pseudo-bulb which is from five to seven inches long. The scape emerges from the base of the pseudo-bulb and is pendent, thus adding a foot or a foot and a half to the space required to include a whole-length figure. It justly bears the name of Mr. Barker of Birmingham, whose collector, Mr. Ross, detected and introduced it to this country from the dark ravines with which the neighbourhood of Xalapa, in Mexico, abounds. Like the other species of the genus it flowers rather freely and, as Mr. Bateman remarks, loves a powerful heat, plenty of water, and abundance of pot-room. Our plant flowered in Nov. 1843, in the Royal Gardens of Kew.

Descr. This has very long *pseudo-bulbs*, which are broadly ovate, deeply furrowed, with the ridges wrinkled, of a dark green colour. *Leaves*, in our plant, three, from the summit of the pseudo-bulb, two feet and more long, broadly lanceolate, tapering at each end, membranaceous, plaited. *Scapes* pendent from the base of the pseudo-bulb, a foot and more long, bearing flowers in a *raceme* almost to the very base, which latter is sheathed with several brown scales. Each flower is subglobose, of a rather full yellow colour, the unexpanded ones tinged with green. *Sepals*

and *petals* very concave, obtuse, nearly equal, scarcely spreading. *Lip* small, articulate upon the elongated base of the column, deeply three-lobed: lateral lobes large, erect, embracing the column; middle one much smaller, retuse, within is a large gland spotted with red. *Column* semicylindrical; its wings short; the back slightly downy. *Anthers* as in the genus.

Fig. 1. Column and lip. 2. Column. 3. Anterior view of the lip :—slightly *magnified*.

Fitch. del. et lith.

Reeve, imp.

Tab. 4204.

MILTONIA spectabilis.

Showy Miltonia.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Perianthium* explanatum, petalis revolutis sepalisque lateralibus basi connatis sessilibus conformibus. *Labellum* maximum, dilatatum, indivisum, sessile, cum columna leviter connatum, basi lamellatum. *Columna* nana semiteres, apice aurita. *Pollinia* 2, caudiculæ oblongæ adnata.—Herbæ *epiphytæ*, *pseudo-bulbosæ*. Scapi *uniflori, vaginati, squamis æquitantibus*. Flores *speciosissimi*. *Lindl.*

Miltonia spectabilis. *Lindl. Bot. Reg. sub. fol.* 1976. *et Tab.* 1992.
Microchilus Fryanus. '*Floral Cabinet*,' *t.* 45.

It was a most just compliment paid to Lord Fitzwilliam, when Dr. Lindley gave to the present plant the name it bears. Under his Lordship's auspices, *Orchideæ* were first successfully cultivated at Wentworth by his able gardener, Mr. Cooper. A more lovely genus or a more distinct one, the whole family of *Orchideæ* cannot boast, and it has the advantage of its blossoms remaining a long time in perfection. With us it flowers in the ordinary Orchideous House, in the month of August.

Descr. This plant has a sort of creeping *rhizoma*, sheathed with scales and sending out rather slender *roots* or fibres below, and *pseudo-bulbs*, distantly placed, above. These latter are oblong, compressed, smooth, with two large membranous scales, one on each side at the base. *Leaves* two, terminal on the pseudo-bulb, ligulate, subcoriaceous, curved downward. *Scape* from the base of the pseudo-bulb, erect, a foot or more high, sheathed at the joints with compressed equitant membranous scales, and bearing a solitary large *flower* of great beauty and delicacy. *Sepals* and *petals* nearly alike, all spreading, or more or less recurved, oblong, obtuse, slightly waved, white or cream-colored, with a tinge of rose at the base. *Lip* very large, pendent, obovate, subunguiculated, waved, longitudinally plicate and obscurely obliquely veined, terminating at the base in a short claw, and there having three distinct lamellæ. The ground color may

be said to be whitish, but it is suffused with a fine rosy tint, deepest towards the base and in all the furrows of the plicæ. *Column* small, white, with two dark rose-red ears or wings. *Anther-case* conico-hemispherical. *Pollen-masses* two.

Fig. 1. Pollen-masses :—*magnified*.

Fitch, del. et lith.

Reeve, imp.

Tab. 4205.

FAGRÆA obovata.

Obovate-leaved Fagræa.

Nat. Ord. Loganiaceæ.—Pentandria Monogynia.

Gen. Char. *Calyx* basi bibracteatus, 5-partitus, lobis imbricatis, obtusis. *Corolla* infundibuliformis tubo superne subampliato, lobis obliquis per æstivatione imbricatis demum patentibus. *Stamina* 5, medio tubo inserta, filam. subulatis subexsertis, anth. bilocul. subincumbentibus. *Ovarium* biloculare. *Stylus* filiformis. *Stigma* peltato-depressum. *Bacca* corticata, ovalis, bilocularis, septo e valvis induplicatis duplici, (in *F. auriculata* demum 4-valvis, ex Blum.). *Placentæ* pulposæ. *Semina* pulposa, pulpa immersa, parva, crustacea. *Albumen* (ex Blum.) corneum, ex Wall. carnosum.—Frutices arboresve *Indici, glabri.* Ramuli *sæpius tetragoni.* Folia *opposita, ovalia, petiolata, integra, coriacea.* Stipulæ *interpetiolares.* Flores *albi, in corymbum racemumve trichotomum terminalem dispositi.* De Cand.

Fagræa *obovata*; arborea, ramis obtuse tetragonis, foliis ellipticis obovatisve apice rotundatis sæpe acuminulatis, panicula subcymosa, 3–6-flora ramis brachiatis, corollæ limbo tubum æquante, lobis obovato-rotundatis patentibus.

Fagræa obovata. *Wall. in Fl. Ind. ed.* 2. p. 33. (*non Bl. Rumph. v.* 1. *t.* 75.) *De Cand. Prodr. v.* 9. *p.* 29.

An exceedingly handsome stove-plant, both as to its foliage and the large cream-coloured flowers, which moreover are very fragrant. It has been long cultivated in the Royal Botanic Gardens of Kew, plants having been sent by Dr. Wallich from Sylhet, where, as at Singapore, according to the same botanist, it is a native. With us it has never blossomed. For flowering specimens I am indebted to the kindness of Mr. Shepherd, of the Botanic Garden, Liverpool. It flourishes in a moist hot stove and succeeds best with bottom heat.

The genus was named by Thunberg in compliment to his friend *J. T. Fagræus*, a Doctor of Medicine.

Descr. With us, cultivated in a pot, it only becomes a shrub, five to six feet high; in its native soil a middling sized tree, with stout *stems* and *branches*, the latter, at their extremities at least, green and herbaceous, four-sided. *Leaves* opposite, rather large, coriaceous, glabrous, as is every part of the plant, oval or subel-

liptic, more generally obovate, with a rather short and sudden point at the end of the rounded extremity, penninerved, quite entire, rather obtuse at the base. *Petioles* about an inch long, stout, with an interpetiolary auricle or stipule. *Flowers* in a short subcymose panicle, terminal; the branches of it brachiate, each bibracteated. *Calyx* somewhat turbinate, thick and fleshy, five-lobed, the lobes ovate, blunt, erect. *Corolla* large, fragrant, cream-coloured, thickish, subcoriaceous, between campanulate and funnel-shaped, *Tube* two inches long, gradually enlarging upwards, where it becomes the five-lobed spreading *limb*. *Stamens* five, *Filaments* exserted beyond the tube, slightly declined. *Anthers* large, ovate. *Style* as long as the stamens. *Stigma* depressed, orbicular, peltate.

Reeve, imp.

Tab. 4206.

IPOMÆA simplex.

Simple-stalked Ipomæa.

Nat. Ord. Convolvulaceæ.—Pentandria Monogynia.

Gen. Char. *Calyx* 5-sepalus. *Corolla* campanulata. *Stamina* inclusa. *Stylus?* *Stigma* capitatum, sæpius bilobum. *Ovarium* biloculare, loculis dispermis. *Capsula* bilocularis. *Choisy in DC.*

Ipomæa *simplex*; glabra, radice tuberosa, caule ad basin suffruticoso subramoso dein erectiusculo debili foliisque lineari-lanceolatis acuminatis subundulatis, pedunculis brevibus solitariis unifloris e parte inferiori caulis, sepalis ovato-lanceolatis apice acuminatis recurvis, corollæ tubo superne sensim dilatato, limbo patente.

Ipomæa simplex. *Thunb. Fl. Cap. ed. Schult. p.* 170. *Spreng. Syst. Veget. v.* 1. *p.* 607.

When the rounded uncouth-looking tuber of this plant was presented to our Garden by the Earl of Derby, in 1844, brought home from the eastern Colonies of South Africa by Mr. Bender, we were not prepared for a cluster of such lovely flowers as appeared at the base of the stems in July 1845. It is one of the *Ipomæas* that is best worth cultivating, for it only needs a small pot, placed in a green-house, and no trellis or apparatus to support the stems, which, at most, do not exceed a foot in length, and are clothed with long slender almost grass-like leaves. It is however difficult of increase.

Every one, who has occasion to study the Cape plants, is aware of the extreme difficulty of determining the species. Imperfect as is Thunberg's character of *Ipomæa simplex*, "foliis lanceolatis integris, floribus solitariis," I was yet of opinion it was intended for this plant, especially on seeing the character followed by the observation, "caulis filiformis, totus glaber, vix palmaris," and my idea was confirmed by having received specimens of the same plant from Dr. Harvey and from Drège, marked *I. simplex*. The latter, indeed, adds a mark of doubt. The *I. simplex* of Thunberg we find, in the last volume of De Candolle's *Prodromus*, (vol. ix. p. 357.) referred, (not without a note of interrogation) to

the *I. suffruticosa* of Burchell, Trav. vol. ii. p. 226, with the following characters, "incano-tomentosa, foliis *orato-cordatis* apice subacutis, &c." Still more strangely, the *Convolvulus* of Sprengel is made the same as the *I. suffruticosa*, without any query, although Sprengel's character is a mere transcript from Thunberg's.—After flowering, the stems die down nearly to the tuber.

Descr. *Root* a solitary *tuber*, larger than a good-sized apple, subglobose. *Stems* from six inches to a foot long, slender, suberect, but feeble and scarcely able to support themselves, woody at the base and there more or less divided, glabrous, as is every part of the plant. *Leaves* alternate, nearly sessile, three, four, or more inches long, narrow, almost linear-lanceolate, tapering at both extremities, frequently recurved, the margins waved, quite entire. *Flowers* large, handsome, from the lower part of the stem, each on a short *peduncle*. *Calyx* of five broadly lanceolate, acuminated, and at the apex somewhat recurved, *sepals*. *Corolla* large, fine rose-colour: the *tube* slightly enlarged upwards and expanding into the broad spreading *limb*. *Stamens* five, inserted at the base of the tube, included, two long, and three short. *Filaments* subulate, downy at the base. *Style* included. *Stigma* large, capitate, two-lobed, granulated.

Fig. 1. Pistil. 2. Section of ovary :—*magnified*.

Fitch, del et lith

Reeve imp

Tab. 4207.

HEINSIA JASMINIFLORA.

Jessamine-flowered Heinsia.

Nat. Ord. Rubiaceæ.—Pentandria Monogynia.

Gen. Char. *Calycis tubus* obovatus, *limbus* 5-partitus, lobis foliaceis oblongis persistentibus. *Corolla* hypocraterimorpha, tubo tereti lobis calycinis longiore, intus ad partem superiorem hirsutissimo, lobis 5 ovalibus acutis undulatis. *Antheræ* 5 lineares acutæ versus apicem tubi sessiles intrà pilos quasi occultatæ inclusæ. *Stylus* filiformis tubo corollæ brevior; *stigmata* 2 linearia. *Fructus* globosus calyce coronatus siccus durus indehiscens bilocularis. *Placentæ* 2 crassæ septo adnatæ. *Semina* plurima aptera in placentæ superficie nidulantia.—Frutex (*seu* arbuscula) *ramosissimus inermis, sed ramulis persistentibus spinas ferè simulantibus horridus.* Folia *opposita ovali oblonga acuminata breve petiolata.* Stipulæ *utrinque binæ minimæ acutæ.* Flores 3–4 *ad apicem ramorum subracemosi pedicellati albi,* Gardeniæ *aut* Randiæ *sat similes.* D.C.

Heinsia *jasminiflora. De Cand. Prodr. v.* 4. *p.* 390.

A very little known shrub, from Western Tropical Africa, presented to the Royal Gardens of Kew by the Earl of Derby, who imported it from Sierra Leone, through Mr. Whitfield. The only description we have of it is by De Candolle, in the Prodromus above quoted, where it is taken up from a specimen gathered by Smeathman, and deposited in the Herbarium of L'Héritier. It was named in compliment to the Philologist Heinsius, translator of Theophrastus. The shrub has a good deal the appearance of a *Gardenia* or *Randia*; with flowers, shaped indeed something like those of a Jessamine, that is, salver-shaped, but very much larger:—the segments of the corolla broad and singularly striated, and often puckered (in those respects much resembling the sepals of some species of *Clematis*, particularly *Clematis Viticella*). It requires the heat of a stove and has flowered with us in September.

Descr. A middling-sized *shrub* in the solitary plant we have seen, glabrous in every part, with opposite and nearly erect *branches*, which are rounded, and green when young, soon turning brown; in age losing their leaves and often becoming spinescent. *Leaves* opposite, on very short *petioles*, almost sessile, narrow- or oblong-ovate, acuminate, rigid, subcoriaceous, entire, penni-

nerved, the apex generally curved downward. *Stipules* very small, subulate, two on each side the branches between each pair of leaves. *Flowers* three or four, terminal upon the branches. *Pedicels* half to three-quarters of an inch long. *Tube of the calyx* (adherent with the ovary) obovate, glabrous or nearly so, crowned with five linear-oblong, almost leafy, recurved, persistent segments. *Corolla* hypocrateriform: the *tube* cylindrical, green: the *limb* of five obovate pure white segments, marked with three to five longitudinal striæ on the disk, the margins crisped. *Stamens* wholly included within the tube, which is much contracted at the mouth. *Style* also included. *Stigma* bifid.

Fig. 1. Transverse section of an ovary. 2. Pistil :—*magnified.*

Fitch del et lith

Reeve, imp

Tab. 4208.

CUPHEA cordata.

Large red-flowered Cuphea.

Nat. Ord. Lythrarieæ.—Dodecandria Monogynia.

Gen. Char. *Calyx* tubulosus basi superiore gibbus limbo ampliatus, dentibus 6 erectis, sinubus 6 nunc productis parvis nunc obsoletis. *Petala* 6–7 inæqualia. *Stamina* 11–14 rarius 6–7, fauci calycis inserta inæqualia. *Glandula* crassa sub ovario. *Stylus* filiformis. *Stigma* simplex aut subbifidum. *Capsula* membranacea calyce obtecta 1–2-locularis, demum per placentam deflexam simul cum calyce fissa. *Semina* suborbiculata compressa aptera.—Herbæ *aut* Suffrutices. Folia *opposita rarius verticillata integerrima.* Pedunculi *interpetiolares uni- aut rarius multiflori.* Flores *sæpius cernui.* Calyces *colorati.* Petala *violacea aut alba.* D.C.

Cuphea *cordata*; pubescens, caule suffruticoso, foliis ovatis (vix cordato-ovatis) oppositis subsessilibus integerrimis, racemis paniculatis bracteatis, calyce (inter majores) colorato basi superne obtuse calcarato ore oblique 6-dentato, staminibus 11 triseriatis, petalis 2 superioribus subrotundatis maximis 4 minutissimis.

Cuphea cordata. *Ruiz et Pav. Syst. Veget. p.* 119. *Fl. Peruv. et Chil. Prodr. p.* 66. *t.* 11. *Ruiz et Pav. Ic. ined. t.* 114 *C. De Cand. Prodr. v.* 3. *p.* 88.

A truly beautiful plant, from the rich scarlet of its two large petals and calyces. Would that all the species of this extensive genus were as distinctly marked as the present one! It is a native of hills and woods in Peru, about Huassahuassi, Chaclla, Acomayo and Huanuco, and from that country seeds were sent to Mr. Veitch of Exeter by his collector, Wm. Lobb, in 1842, from which plants were raised that blossomed in August, 1845. The plant is kept in the stove and seems to flower freely there: it may be increased by cuttings. The generic name is derived by Jacquin from κῦφὸς *curved*, in allusion to the curvature of the base of the calyx.

Various properties are attributed by the Peruvians to this plant, which are probably analogous to those of the nearly allied *Lythrum* or *Loose-strife*. "Vi vulneraria," say Ruiz and Pavon, "apertiva et desobstruente pollet. Folia floresque contusi ad partes luxatas roborandas inserviunt. Flores antiepilectici, saporem parum viscosum, salino-dulcem, non ingratum habent."

January 1st, 1846.

Descr. A suffruticose *plant*, with terete or very obtusely four-sided *stems*, downy, as well as the foliage, the *branches* herbaceous, erect. *Leaves* opposite, ovate, or rarely the lower ones subcordato-ovate, sharply acuminated, entire, penninerved; the largest of them are two inches long, they gradually become smaller and pass insensibly into *bracteas* as they approach the flowers. *Panicle* terminal, formed of lax *racemes*, each bearing two to four drooping large (for the genus) almost entirely bright red, or rather scarlet, *flowers*. *Calyx* tubular, very gibbous at the base above, broader towards the mouth, which is oblique and six-toothed, strongly ribbed. *Corolla* of six *petals*, four extremely small, lanceolate, erect, scarcely longer than the calyces; two upper ones very large, unguiculate, the limb obovato-rotundate, reflexed. *Stamens* eleven, inserted into the lower side of the faux of the *calyx*, in three rows or series; *filaments* exserted, hairy. *Anthers* small. *Ovary* seated upon an oblique gland, oblong, tapering into a subulate *style*.

Fig. 1. Flower, the two larger upper petals removed. 2. The same, laid open. 3. Pistil:—*magnified*.

Fitch. del et lith

Reeve imp.

Tab. 4209.

FRANCISCEA HYDRANGEÆFORMIS.

Hydrangea-like Franciscea.

Nat. Ord. Scrophularineæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4189.)

Franciscea *hydrangeæformis*; caule subramoso, foliis (amplis) obovato-oblongis breviter acuminatis basi in petiolum brevem cuneato-attenuatis, bracteis (deciduis) lanceolatis pilosis ciliatis squamulisque aggregatis, calyce hirsuto, florum racemis (compositis) terminalibus hemisphericis amplis. *Pohl.*

Franciscea hydrangeæformis. *Pohl, Pl. Bras. v.* 1. *p.* 7. *t.* 7. *Benth. in De Cand. Prodr. ined.*

β, calycibus latioribus bracteisque glabriusculis.

Franciscea capitata, *Benth.* l. c. (Tab. nostr. 4209.)

Ever since the publication of the 1st fasciculus of Pohl's splendid work on Brazilian Plants, it has been an object with collectors and horticulturists to procure the *F. hydrangeæformis* for cultivation in our stoves. Pohl found it at Olaria, near Rio Paraby-buna, in 1818. Mr. Gardner was so fortunate as to meet with it, in the Organ Mountains, (n. 563 of his collections) in 1837; and he wrote from Rio, upon the label attached to our specimens, "this, from my recollection of the figure, I had considered to be *F. hydrangeæformis* of Pohl; but by the kindness of Mr. Miers I am informed that Pohl's description is 'bracteis lanceolatis pilosis ciliatis, calyce hirsuto'; while here the bracts and calyx are quite glabrous. It is a shrub, about four feet high, growing in rather moist places in virgin forests, and attaining an elevation, upon the hills, of about 4500 feet. All the species are called *Manacá* (the Indian name) by the Brazilians, and this receives the name of *Manacá dobrado*. It is a beautiful plant; but does not ripen its seeds freely. I have only been able to procure a few, which I send." These seeds have been reared in Glasgow and Kew, and from the produce of them our present figure was taken. In 1840 Mr. Gardner met again, in Minas Geraes, with specimens (n. 5065 of his collections), which he considered the true plant of Pohl, in which opinion he is no doubt correct, the calyces

being narrower and rather more hairy; but the leaves are longer and narrower than our *var.*, or in Pohl's figure. This it is which Mr. Bentham refers, in De Candolle's forthcoming volume, to Pohl's *F. hydrangeæformis*, whereas the present he has looked upon as a distinct species, his *F. capitata*. I fear they are only slight varieties; though neither yields to the other in beauty. It is cultivated in the stove and seems to have no particular season for flowering. Our drawing was made in October of the present year, and the plant is now showing bloom again (Dec. 1845). It is, with difficulty, increased by cuttings and does not bear seed with us.

Descr. A low growing *shrub*, of robust habit, sparingly branched. *Leaves* alternate, more crowded towards the apices of the *branch*, six to eight or even ten inches long, firm, glabrous, oblong-obovate, quite entire, penninerved, the apex shortly acuminate, the base cuneate, tapering gradually into a short thick foot-stalk. *Flowers* in a dense compound *raceme* or *cyme*, forming a rather large compact head, and in that respect resembling the *Hydrangea hortensis*. *Bracteas* and *squamules* at the base of the pedicels, lanceolate, membranaceous, ciliate or glabrous. *Calyx* in our plant oblong, broader upwards (in α, almost of equal diameter throughout), slightly hairy even in our var. β, with five sharp teeth or lobes. *Corollas* large, of a fine rich blue-purple, becoming paler and almost white in age. *Stamens* included. *Ovary* seated upon a glandular ring; *style* included. *Stigma* bifid.

Fig. 1. Calyx, with pistil. 2. Pistil:—*magnified.*

4210.

Fitch, del. et. lith

Reeve Brothers, imp

Tab. 4210.

ADENOCALYMNA comosum.

Hop-flowered Adenocalymna.

Nat. Ord. Bignoniaceæ.—Didynamia Angiospermia.

Gen. Char. Adenocalymna, *Mart.*— *Calyx* tubuloso-campanulatus, sæpius 3-dentatus, rarius truncatus aut spathaceo-fissus, versus apicem glandulas circiter 10 grossas planiusculas fuscas fere calyciformes gerens. *Corolla* tubulosa, basi subcontracta, extus pulverulento-velutina, limbo rotunde et subæqualiter 3-lobo. *Stamina* 4 fertilia et 1 sterile. *Antheræ* lobis 2 divaricatis glabris. *Stigma* bilamellatum. *Fructus* ignotus.—Frutices *vel* suffrutices, *fere omnes scandentes.* Rami *teretes ex lenticellis punctato-scabrioli.* Folia *opposita, nunc trifoliata, foliolo medio longius petiolulato, nunc bifoliata cum cirrho simplicissimo intermedio.* Foliola *integerrima.* Racemi *axillares terminalesve, pube brevi conferta subpulverulenta ex omni parte velutini.* Flores *secus rachin oppositi, brevissime pedicellati.* Bracteæ *amplæ, ovatæ, concavæ, deciduæ, et bracteolæ breviores angustiores glandulas calycinis similes sæpius dorso gerentes.* Corollæ *flavæ, aurantiaceæ aut forte purpurascentes, in sicco sæpius sordide purpurascentes,* 1–3 *poll. longæ.* DC.

Adenocalymna *comosum*; præter inflorescentiam subpubescentem glabrum, foliis 3-foliatis et conjugatis simpliciter cirrhosis, foliolis ovatis subcoriaceis supra planis lucidis reticulato-venosis sparsim glandulosis margine reflexo, racemis spiciformibus axillaribus et terminalibus, bracteis sub vernatione comosis oblongis acutis subglandulosis mox deciduis, bracteolis calycem 5-dentatum glanduliferum superantibus.

Adenocalymna comosum. *De Cand. Prodr. v.* 9. *p.* 201.

Bignonia comosa. *Cham. in Linnæa t.* 832. *p.* 693.

A highly natural group of the old and very extensive Genus *Bignonia*, inhabiting Brazil and Guiana, distinguished by their scandent scabrous stems, ternate leaves, (or geminate with a simple cirrhus, in lieu of a terminal leaflet), and racemes of large, handsome, generally yellow, trumpet-shaped flowers, glabrous or pulverulento-tomentose, with large deciduous bracteas and smaller bracteoles; the leaves, bracts, and calyces beset with conspicuous pateriform dark-coloured glands. These constitute the Genus *Adenocalymna* of Martius, adopted by De Candolle, and so named from ἀδήν, *a gland*; κάλυμμα, *a covering*. It must be confessed that the species, nineteen in number, are difficult to be defined

by words, and we should have failed to determine our present plant (sent from Rio to the Royal Gardens, by J. Lynd, Esq., in 1841), were it not that we possess an authentic specimen of *A. comosum* from Chamisso. The *A. longibracteatum*, Mart., is considered by De Candolle to be scarcely distinct from this. Our plant is a beautiful climber, and trained to the rafter of a stove makes a fine appearance with its copious flower-buds, which look like large clusters of hops in September and October, and as soon as the bracteas fall, the conspicuous yellow flowers burst forth. The species is increased by cuttings.

Descr. A tall climber, with fruticose, punctato-scabrous *stems* and opposite ovate *leaves*, sometimes approaching to a lanceolate figure; the petiolules incrassated at their apex. *Racemes* both axillary and terminal, at first so densely clothed with large concave bracteas as to look like the large aments of the Hop; these fall away before the corollas expand, except two lesser bracts upon each pedicel, but which, still, are larger than the calyx, and eventually fall away also. *Calyx* tubulose, five-toothed, with about five large glands below the teeth, similar to those on the leaves and bracts. *Corolla* large, handsome, bright yellow, trumpet-shaped, the *limb* very large, spreading, two-lipped, upper lip of two, lower of three, large, rounded, waved lobes. *Stamens* and *style*, with the two-lipped *stigma*, included.

Fig. 1, Bracteoles and calyx (including the pistil), with glands. 2. Portion of a leaf with a gland:—*magnified*.

4211.

Fitch, del et lith

Reeve Brothers, imp:

Tab. 4211.

STACHYTARPHETA ARISTATA.

Aristate Bastard-Vervain.

Nat. Ord. Verbenaceæ.—Diandria Monogynia.

Gen. Char. *Calyx* tubulosus, quadridentatus. *Corolla* tubo curvato; *limbo* quinquefido, inæquali. *Stamina* quatuor quorum duo sterilia. *Stigma* subcapitatum. *Drupa* exsucca, bilocularis, bipartibilis; loculis monospermis.—Herbæ, suffrutices, *aut* frutices. Folia *opposita*, *serrata aut crenata*. Spicæ *terminales*, *demum alares*, *solitariæ*, *teretes*, *graciles*. Flores *alterni*, *sessiles*, *bracteati*; *rachi carnosæ semi-immersi*. Corollæ *violaceæ*, *cæruleæ*, *coccineæ aut roseæ*. Kunth.

Stachytarpheta *aristata*; suffruticosa pubescenti-incana, foliis rhombeo-ovatis acuminatis grosse serratis reticulatim venosis basi in petiolum attenuatis integerrimis subtus pubescentibus, spica elongata crassa densiflora, bracteis orbiculari-ovatis longe cuspidato-aristatis, corollæ limbo tubum curvatum æquante v. superante.

Stachytarpheta aristata. *Vahl, Ecl. Am. v.* 2. p. 2. *Ic.* 11. *Enum. Plant. v.* 1. *p.* 206.

This fine plant was detected in South America, and probably at Santa Martha, by Von Rohr, and seems to have been known to no author but Vahl, who has given so accurate a description of it in his '*Enumeratio*' that the species cannot be mistaken. It has, again, been found by our collector, Mr. Purdie, and sent from Santa Martha to the Royal Gardens, where in a moist stove it produced its handsome dense spikes of extremely rich deep almost black-purple flowers, in Oct. 1845. These flowers begin to expand from below and continue opening upwards in succession throughout the whole length of the elongated spike. No species of this genus yet cultivated is comparable to this for richness of color. The generic name is derived from στάχυς a *spike*, and ταρφειὸς *crowded*: a character which is fully borne out by the present species.

Descr. Whole plant uniformly pubescenti-hirsute. *Stems* terete, herbaceous, with opposite branches. *Leaves* opposite, ovate or rhombeo-ovate, acute, coarsely serrated, the base entire, tapering into a short foot-stalk, the surface wrinkled, as it were, with the copious oblique veins and transverse reticulations. *Spike*

terminal, very long, clothed with numerous densely-imbricated orbicular-ovate leafy *bracteas*, tapering suddenly into a long subulation, whence the specific name given by Vahl. *Calyx* tubular, curved, with five angles and five small but unequal teeth, the angles hispid. *Corolla* rich deep blackish-purple, with the *tube* curved, (downy within), the *limb* of five rounded or almost obcordate, spreading, nearly equal, waved lobes. At the upper side of the mouth is a bifid scale. *Stamens* situated at the mouth, two are perfect, with short *filaments* and two-celled *anthers*, the anther-cells diverging: and two are sterile filaments, wholly destitute of anthers. *Ovary* arising from a fleshy base or gland. *Style* long, filiform. *Stigma* capitate, somewhat two-lobed.

Fig. 1. Calyx, including the pistil. 2. Corolla, laid open. 3. Pistil:—*magnified.*

4212.

Fitch, del. et lith

Reeve Brothers, imp.

Tab. 4212.

SINNINGIA velutina.

Velvety Sinningia.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. *Calyx* tubulosus 5-angulatus, foliaceo-alatus, ore quinquefido. *Corolla* fauce inflata, sub-bilabiata. *Rudimentum* filamenti quinti, basi corollæ superne insertum. *Nectarii glandulæ* cum filamentis alternantes. *Fructus* capsularis. *Capsula* subcarnosa. *C. G. Nees.*

Sinningia *velutina*; caule suffruticoso erecto crasso brevi, foliis ad apicem caulis late ovato-ellipticis acutis crenato-serratis velutinis, pedicellis unifloris calyce ovato alte alato (colorato) brevioribus, ovario calyce 4-plo breviore, corolla longe exserta limbo amplo obliquo.

Sinningia velutina. *Lindl. Bot. Reg. sub. tab.* 1112.

This is the handsomest of the Genus *Sinningia**, with large ample dark green velvety leaves, the younger ones and petioles tinged with red, very large red calyces and large flowers. Independent of the angled or winged calyx, there is something in the form and colour of the flower and general habit that indicates the propriety of keeping the genus distinct from *Gloxinia*; with which, however, De Candolle unites it. All the species are natives of Brazil, whence the present was introduced to the Garden of the Horticultural Society in 1826. A plant of it, sent by Messrs. Rollison, under the name of *S. Helleri* (which it cannot be if the descriptions of that species are accurate), flowered in the Royal Gardens of Kew, in June 1845. It requires the heat of a stove.

Descr. The *stem* short, stout, and uneven, scarcely three inches high, and almost one-third of an inch thick; bare of foliage for the greater part of its length from the base. *Leaves* from the summit of the short stem, opposite, spreading, dark-green velvety, elliptico-ovate, broad, obtuse at the base, acute at the point, the margin rather obscurely crenato-serrate, penninerved, the nerves prominent in the young leaves beneath. *Petioles* rather long, very thick and fleshy, grooved above. *Peduncles* axil-

* So named in compliment to *Mr. Sinning*, Gardener to the University of Bonn.

lary, solitary, single-flowered; shorter than the calyx, and much shorter than the petioles. *Calyx* ovato-oblong, red, contracted and split on one side upwards, and having five prominent longitudinal angles or wings, the mouth with five sharp teeth pressed close to the corolla. *Corolla* large, much exserted, pale greenish-yellow, spotless; the *tube* inflated, the *limb* spreading, very oblique, deeply five-lobed, the lobes large, rounded, imbricated, and somewhat waved. *Stamens* slightly exserted. *Ovary* short, united with the winged base of the calyx. There are five linear glands at the base of the style.

Fig. 1. Ovary with the adherent winged base of the calyx. 2. Transverse section of the same:—*magnified.*

Fitch. del. et lith.

Reeve Brothers. imp

Tab. 4213.

GLOXINIA PALLIDIFLORA.

Pale-flowered Gloxinia.

Nat. Ord. Gesneriaceæ.—Didynamia Gymnospermia.

Gen. Char. *Calycis tubus* imo ovario adnatus, *limbus* 5-fidus aut 5-partitus. *Corolla* infundibuliformi- aut campanulato-subringens, hinc postice ad basin gibba, aut subcalcarata, tubo ventricoso, limbo patulo sub-bilabiato, lobis 5 rotundatis. *Stamina* 4 didynama cum quinti rudimento. *Antheræ* cohærentes. *Glandulæ* 5 perigynæ. *Stylus* in *stigma* orbiculatum concavum subinfundibuliforme abeuns. *Capsula* 1-locularis, bivalvis, placentis 2-parietalibus bilobis, seminibus numerosis oblongis.—Herbæ *aut* suffrutices *Australi-Americanæ, pleræque Brasilienses.* Folia *opposita, interdum radicalia, petiolata, crenata.* Flores *ampli, axillares aut radicales, pedicellati, sæpius nutantes.* DC.

Gloxinia *pallidiflora*; caule erecto simplici immaculato, foliis latis suboblique ovatis hirsutulis obscure serratis supra pilosiusculis subtus pallidis concoloribus, calycis segmentis linearibus patenti-reflexis, corollæ lobis omnibus concavis.

A comparison of this figure with Tab. 4212, given in this number, will show the dissimilarity of *Gloxinia* and *Sinningia*; while a comparison again with Tab. 1191, exhibits the difference of the present plant, as a species, from *G. maculata*, the original species on which the genus was founded. Our *G. pallidiflora* is of much more weak and slender habit; the leaves are thinner, pale, less serrated, and somewhat oblique at the base; the petioles are generally longer, the stem spotless, the corolla smaller, pale-coloured, the lobes all concave (but not equally, the lowest, most so, but in itself less concave than the lower one of *G. maculata*), the gibbosity at the lower base of the corolla is greater; and, above all, the lobes of the calyx are much narrower and more recurved. It was sent from Santa Martha by our collector Mr. Purdie, and flowered with us in Oct. 1845. Seen growing in the same stove with *G. maculata*, the differences are at once perceived, though they are not so easily defined in a few words. It increases by its curious, caterpillar-like tubers, in the same way as *Gloxinia maculata*.

Descr. *Stem* herbaceous, erect, obscurely four-angled, green,

spotless, slightly and partially hairy. *Leaves* opposite, petioled, broadly and obliquely ovate, acute, somewhat fleshy, remotely and coarsely serrated. *Petioles* one to two inches long, shorter in the upper leaves. *Peduncles* longer than the petioles, axillary, solitary, single-flowered. *Flowers* slightly drooping, large, but smaller than in the old *G. maculata*. *Calyx-tube* clavate, furrowed, adnate with the germen; the segments linear, spreading, striated, patent, and, at the apices especially, reflexed. *Corolla* similar in shape to that of *G. maculata*; but smaller, much paler coloured, more inclining to blue, the limb less spreading, and the middle lobe of the lower lip less concave, and not so much serrated. *Stamens* and *style* included.

Fitch, del et lith

Reeve Brothers, imp:

Tab. 4214.

MORMODES Cartoni.

Mr. Carton's Mormodes.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Sepalum* superius subfornicatum, angustum, *lateralia* conformia reflexa. *Petala* latiora, conformia, erecta. *Labellum* sellæforme, ascendens, trilobatum, subcuneatum, apiculatum, cum columna articulatum. *Columna* semiteres, mutica; *gynizus* longus angustus; *clinandrium* postice acuminatum. *Pollinia* 4, per paria connata, caudiculæ crassæ affixa, glandulæ carnosæ crassæ adhærenti.—Habitus *Cataseti*. *Lindl.*

Mormodes* *Cartoni*; pseudo-bulbis elongatis teretibus articulatis vaginatis apice di-triphyllis, foliis lineari-lanceolatis acuminatis, spica elongata multiflora, sepalis petalisque patentibus conformibus oblongo-lanceolatis acutis, labello oblongo torquato basi angustato infra medium utrinque unidentato marginibus reflexis apice aristato-acutis, columna antheraque cuspidato-acuminatis.

From the collection of Orchideous Plants, sent home by Mr. Purdie, from the interior of Santa Martha, at the foot of Sierra Nevada. It first flowered at Syon Gardens, the seat of His Grace the Duke of Northumberland, and I have much pleasure in naming this new species of *Mormodes* in compliment to Mr. Carton, under whose skilful management tropical plants especially are most successfully cultivated. It is very unlike any described species of the genus, though perhaps its nearest affinity is with *M. aromaticum*, Lindl. Bot. Reg., 1843, t. 56; but it is at once distinguishable by the lip and various other discrepancies. It first flowered in Nov. 1845.

Descr. *Pseudo-bulbs* almost a span long, clustered, subcylindrical, articulated, and sheathed at the joints by the membranaceous bases of the old leaves. Perfect *leaves*, three to four, are produced from the apex of the bulb, a foot or more long, narrow, linear-lanceolate, membranaceous, striated, acuminated. *Scapes*, one or two, from an articulation of the pseudo-bulb, erect, bearing a rather long oblong *spike* of numerous rather gay-coloured

* Named by Dr. Lindley from μορμω, a *frightful-looking object*, or a *goblin*, in allusion to the strange appearance of the flowers.

flowers. The *sepals* and *petals* are nearly uniform in size and shape, much spreading, almost reflexed, oblong-lanceolate, acute, yellow with red longitudinal streaks. *Lip* equal in length with the petals, but singularly obliquely twisted, of a pale yellow colour, with a few red interrupted streaks; the form is an irregular oblong, tapering at the base, with a short blunt tooth on each side below the middle, the apex very acute, almost aristate. *Column* slightly oblique, tapering at the extremity into a long subulate point. *Anther-case* corresponding with it and applied to the anterior face. *Pollen-masses* two, each with an obscure fissure, attached to a broad, curved, strap-shaped appendage, and that again, by its base to a large gland.

Fig. 1. Column and Lip. 2. Pollen-masses :—*magnified.*

Tab. 4215.

CYCNOCHES Loddigesii.

Mr. Loddiges' Swanwort.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Perianthium* explanatum. *Sepala* lateralia lanceolata basi paulum sub labello connata, supremo angustiore. *Petala* latiora falcata, decurva. *Labellum* liberum, calcaratum, columna continuum, lanceolatum, integerrimum, ungue abrupto calloso. *Columna* elongata, arcuata, teres, apice clavata, auriculis 2 falcatis ad latera clinandrii. *Anthera* bilocularis. *Pollinia* 2, postice sulcata, subpedicellata; caudicula lineari, glandula grossa.—Habitus *Cataseti* (sed racemus terminalis). *Lindl.*

Cycnoches *Loddigesii*; floribus maximis, petalis falcatis sepalisque lateralibus lato-lanceolatis, labello lanceolato recto carnoso acuminato, ungue lato brevi, columna elongata arcuata sepalo supremo lineari-lanceolato vix breviore.

Cycnoches Loddigesii. *Lindl. Gen. et Sp. Orchid. p.* 154. *Bot. Reg. t.* 1742.

This very striking Orchideous plant, the species upon which the genus was founded, is a native of Surinam, and was introduced from thence, by Messrs. Loddiges through J. H. Lance, Esq. As may be expected, it requires great heat and moisture, and, thus treated, it flowers readily in the autumnal months, at which season our specimen bloomed in the Royal Gardens of Kew. The column, long and slender and much convex, has not inaptly been compared to a *swan's neck*, whence, as is well known, the generic appellation is derived; but to us it appears to have a still greater similarity to a Cobra de Capella, the swollen and dilated apex below the anther very accurately representing the inflated throat of that dreaded reptile, while the colour and marking serve to increase the resemblance.

Descr. *Pseudo-bulbs* large, stout, elongated, subcylindrical, clustered, sheathed with large, distichous, pale green, striated scales, on the upper ones of which the broad-lanceolate membranous leaves are articulated. *Raceme* terminal, drooping, not much longer than the pseudo-bulbs, flowering almost to the base of the peduncle; *flowers* 5–6, very large. *Sepals* and *petals* nearly uniform in colour, greenish-brown, the former blotched with brown:—in shape the two lower sepals and the petals are

nearly alike, broadly lanceolate, but the latter are larger and falcate: upper sepal linear-lanceolate, elongated. *Lip* somewhat trowel-shaped, the *unguis* broad; the *limb* broadly lanceolate, straight, convex, fleshy, white or flesh-coloured, with scattered blood-coloured spots. *Column* very long, slender, cylindrical, singularly incurved, dark purple, paler and almost yellow above, where it is inflated and dilated, and spotted with deep purple just below the *anther*.

Fitch, del. et lith.

Tab. 4216.

ALLOPLECTUS DICHROUS.

Two-coloured Alloplectus.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx liber coloratus 5-sepalus, sepalis imbricatis varie basi connexis, 2 interioribus. *Corolla* tubulosa v. claviformis rectiuscula, limbo brevi 5-lobo aut 5-dentato. *Stamina* didynama cum quinti postici rudimento e basi tubi. *Stigma* capitato-infundibuliforme. *Annulus* hypogynus in glandulam posticam tumens. *Capsula* baccans coriacea 1-locularis 2-valvis. *Semina* ∞ oblonga.—Frutices *Australi-Americani scandentes radicantes.* Caules *teretes aut subtetragoni flexiles, epidermide nitida.* Rami *oppositi.* Folia *opposita hinc inde inæqualia petiolata pinguicula, sæpe pubentia, interdum subtus rubentia.* Gemmatio *nuda.* Flores *axillares, aggregati, rarius solitarii, bracteis rubro-coloratis instructi aut nudi.* Corollæ *flavæ.* DC.

Alloplectus *dichrous*: fruticosus erectus, foliis ovato-oblongis acutis integerrimis substrigillosis, floribus axillaribus subsessilibus aggregatis, sepalis atro-sanguineis triangularibus subdenticulatis glabris, corollæ hirsutissimæ clavatæ (flavæ) limbo erectiusculo.

Alloplectus dichrous, *De Cand. Prodr. v.* 7. *p.* 546.

Besleria dichrous, *Spreng. Syst. Veget. v.* 2. *p.* 840.

Besleria bicolor, *Schott, in Flora*, 1821, *p.* 197 (*non H. B. K.*).

Alloplectus Schottii, *Donn, Gard. Dict. v.* 4. *p.* 655.

Alloplectus sparsiflorus, *Mart. Nov. Gen. et Sp. Bras. v.* 3. *p.* 55. *t.* 223. *f.* 1.

Hypocyrta discolor, *Lindl. Bot. Reg.* 1845. *Suppl. p.* 19.

Of this singular stove-plant, I think it will be found that the above synonymes are correct. To this country the plant was introduced from Brazil by T. G. Lorraine, Esq., and has been distributed under the name of *Hypocyrta discolor* of Lindley, in the work above quoted. We have frequently had occasion to remark how very ill-defined are the genera of the *Gesneriaceous* plants: still we think this can hardly be referred to *Hypocyrta* of Martius; but rather to *Alloplectus* of the same author, destined to receive the well-known *Besleria coccinea*, Linn., and the other allied species, which have the margins of some of the sepals variously complicate or plicate (whence the name ἄλλος, *diverse*, and πλέκειν, to *plait* or *fold*). It seems with equal certainty to be the *A. dichrous* of

De Candolle, (*Besleria bicolor*, Schott). Schott's original character (l.c.) entirely accords with it; and he says nothing about the colour of the corolla, which De Candolle (who appears to have seen the species), perhaps by some error, states to be red in the *tube*, whereas it is yellow. Martius' figure and description of *A. sparsiflorus* leave no doubt of that being a synonyme; and not happily named, for he correctly represents the flowers as aggregated.

Cultivated as this plant is at Kew among the various red and orange-coloured and purple flowered *Gesneriaceous* plants, it makes a singular contrast with its dark black-purple or blood-coloured calyces and pale yellow, very woolly corollas. It may be increased by cuttings.

Descr. *Stem* erect, shrubby below, herbaceous above, terete, glabrous. *Leaves* opposite, petiolate, ovato-oblong, acute, entire, fleshy, penninerved, strigillose: *petiole* about as long as the cluster of flowers, red; *nerves* often red beneath. *Flowers* aggregate, nearly sessile, bracteated; *bracteas* soon deciduous. *Calyx* of five cordate or triangular, dark blood-coloured *sepals*, the three outer larger and including the two inner ones, their margins complicate. *Corolla* clavate, the *tube* curved at the base; the rest densely clothed with close spreading yellow hairs. *Limb* of five, nearly erect, small, rounded lobes. *Stamens* included. *Ovary* ovate, glabrous, with a large gland at the base beneath. *Style* curved. *Stigma* oblique, small, two-lobed.

Fig. 1. Corolla. 2. Stamens. 3. Pistil and hypogynous gland:—*magnified*.

Finch del et lith

Reeve imp

Tab. 4217.

GESNERIA Hondensis.

Honda Gesneria.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx ovarii basi adnatus, limbo subinæqualiter 5-partito libero. *Corolla* tubulosa ima basi 5-gibberosa aut æqualiter subtumida, limbo 5-lobo, lobis nunc in labia duo dispositis, nunc subæqualibus. *Stamina* 4 imæ corollæ adnata, didynama cum quinti rudimento. *Antheræ* juniores cohærentes. *Stylus* filiformis, stigmate capitato aut bilobo. *Glandulæ* perigynæ 2–5 circa ovarii basin. *Capsula* hirsuta coriacea 1-locularis, 2-valvis, valvis convexis placentis 2-parietalibus polyspermis. *Semina* scobiformia.—Herbæ *perennes radice tuberosa, raríus* frutices. Caulis *simplex aut opposite ramosus.* Folia *opposita aut verticillata dentata.* Pedunculi *simplices uniflori aut ramosi multiflori, axillares aut in thyrsum racemumve terminalem dispositi.* DC.

Gesneria *Hondensis*; caule herbaceo erecto superne ramisque tetragonis, foliis oppositis ovatis subacuminatis serratis rugosis brevi-petiolatis subtus magis hirsutis, pedunculis solitariis geminatis ternisve petiolo triplo floreque longioribus unifloris, calyce hemisphærico dentibus acutis, corolla hirsuta tubuloso-ventricosa fauce contracta lobis æqualibus patentibus glandulis, hypogynis 5.

Gesneria Hondensis, *H. B. K. Nov. Gen. Am. v.* 2. *p.* 395. *t.* 190. *De Cand. Prodr. v.* 8. *p.* 530.

A very handsome *Gesneria*, new to our gardens, discovered by Humboldt, at Honda, New Grenada. Tubers were sent to the Royal Gardens of Kew by Mr. Purdie, early in 1845, one of them, from which the drawing is here made, flowered at Syon Gardens in December of the same year. The rich scarlet of the flowers, yellow at the mouth, remind one of the well-known *Manettia bicolor*; but here the red is due to the shaggy hair, altogether of that colour, with which the tube of the corolla is clothed for almost its whole length. It requires the same kind of treatment as other species of this fine genus; and it appears that, by a little management in forcing or retarding the tubers, they may be made to blossom at almost every season of the year.

Descr. *Roots* tuberous; *stem* erect, about a foot long, very leafy, subterete below, above and the *branches* tetragonal, hairy. *Leaves* opposite, spreading, ovate, acute or subacuminate, serrate

hairy especially beneath, wrinkled with the copious reticulated veins. *Petioles* from half to three quarters of an inch long. *Peduncles* much longer than the petioles and somewhat longer than the flower, axillary, solitary or two or three together, single-flowered, hairy, frequently with a pair of small leaves in the same axil. *Calyx* cup-shaped, or hemispherical, five-toothed, teeth acute, spreading, tipped with red. *Corolla* an inch or rather more long, tubular and subventricose, slightly unequal (not gibbous at the base), the *mouth* contracted, the *limb* of five short rounded, equal, spreading lobes :—the colour is yellow, but the tube for nearly the whole length is clothed with shaggy bright red, almost vermillion-coloured hairs. *Stamens* included. *Ovary* ovate, hairy, surrounded by five hypogynous emarginate glands, half as long as the ovary. *Style* thick, downy. *Stigma* two-lipped.

Fig. 1. Pistil and hypogynous glands :—*magnified.*

2

4

3

5

Fitch del et lith.

Reeve imp.

Tab. 4218.

FUGOSIA heterophylla.

Various-leaved Fugosia.

Nat. Ord. Malvaceæ.—Monadelphia Polyandria.

Gen. Char. *Involucellum* hexa-polyphyllum. *Calyx* quinquefidus, laciniis æstivatione valvatis. *Corollæ petala* 5, hypogyna, obovato-inæquilatera, unguibus imo tubo stamineo adnata, æstivatione convolutiva. *Tubus stamineus* columnæformis, infra apicem nudum, quinquedentatum, *filamenta* plus minus copiosa, brevia exserens, *antheræ* reniformes. *Ovarium* sessile, simplex, tri-quadriloculare. *Ovula* in loculis 4–8, angulo centrali inserta, adscendentia. *Stylus* terminalis, apice exserta breviter tri-quadrifidus vel indivisus; *stigmata* distincta v. conglutinata. *Capsula* tri-quadrilocularis, loculicide tri-quadrivalvis, valvis medio septiferis. *Semina* in loculis pauca v. abortu interdum subsolitaria, reniformia, testa crustacea, sinu umbilicata, pilis gossypinis plus minus lanuginosa. *Embryo* intra albumen parcissimum, mucilaginosum, homotrope arcuatus: *cotyledonibus* foliaceis, sese plicato-involventibus; *radicula* infera.—Frutices *vel* suffrutices *in America et Africa tropica indigeni*; foliis *alternis, petiolatis, integris v. palmatim lobatis*, stipulis *petiolaribus geminis linearibus*, pedunculis *axillaribus solitariis, unifloris*, corollis *luteis*, calycibus *granulis nigris punctatis.* Endl.

Fugosia *heterophylla*; caule erecto, foliis ellipticis lanceolatisve integris v. trifidis trinerviis, pedunculis axillaribus solitariis unifloris longitudine folii superne incrassatis, calycibus nigro-glandulosis, corolla (flava) basi maculis 5 sanguineis pectinatis.

Fugosia heterophylla. *Spach, Hist. des Veget. v.* 3. *p.* 397.

Redoutea heterophylla. *Vent. Hort. Cels. t.* 11. *H. B. K. Nov. Gen. Am. v.* 5. *p.* 293. *De Cand. Prodr. v.* 1. *p.* 457. *Spreng. Syst. Veget. v.* 3 *p.* 309.

A very pretty shrub, named by Cavanilles in honour of *Bernard Cienfuegos*, a Spanish botanist of the 16th century, and now, we believe, first cultivated in England, from seeds sent home from St. Martha, by our collector, Mr. Purdie, in 1845. At the Syon Gardens, where our figure was made, plants flowered in October of the same year. The general appearance of the blossoms is not much unlike those of *Turnera ulmifolia*; but when the centre of the flower is examined, each of the five petals will be found to have a rich scarlet or blood-coloured pectinated spot, the teeth or rays arranged with the most perfect regularity. Mr. Spach has, we think, correctly referred the *Redoutea* of Ventenast

to *Fugosia*; for there seems to be no generic distinction. The present species was originally found in the Island of St. Thomas and on the banks of the Orinoco. Its specific name is derived from the varying form of the leaves, very evident in our dried specimens, but less remarkable in cultivated ones.

Descr. A rather twiggy, erect, branching, glabrous *shrub*; the young *branches* herbaceous, terete. *Leaves* alternate, somewhat remote, upon rather long slender footstalks, oval or oblong, obtuse or acute, entire, waved, three or five-nerved at the base. *Stipules* small, subulate, deciduous. *Peduncles* solitary, axillary, single-flowered, longer than the leaf, singularly thickened upwards, and articulated to the base of the calyx, where there are about five, small, subulate bracts forming an involucre. *Calyx* of five lanceolate, much acuminated pieces or sepals, three-ribbed, with conspicuous black glands placed in rows or series between the ribs. *Corolla* of five broadly cuneate, oblique and imbricated, almost twisted *petals*, tapering into a short claw, of a yellow colour, with a deep blood-coloured blotch, which, on being seen with a microscope (*fig.* 3), is found to arise from five deep blood-coloured spots, each pectinated or marked with parallel lines or rays resembling the teeth of a comb. *Filaments* often bifid. *Anthers* reniform, one-celled. *Ovary* ovate, glabrous, three-celled, with several *seeds* arranged in two rows in each cell. *Style* gradually widening upwards and there red. *Stigmas* five, small, erect.

Fig. 1. Flower, the petals scarcely expanded. 2. Portion of a sepal, to show the glands. 3. Petal. 4. Pistil. 5. Ovary, cut through transversely, to show the ovules:—more or less *magnified*.

Fitch del et lith

Reeve imp

Tab. 4219.

CATASETUM CALLOSUM; *var.* GRANDIFLORUM.

Tumour-lipped Catasetum; large-flowered var.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Perianthium* sæpius globosum, nunc explanatum. *Sepala* et *petala* subæqualia. *Labellum* crassum, carnosum, nudum, ventricosum vel explanatum, fimbriatum; sub apice saccatum obsolete trilobum. *Columna* erecta, aptera, libera, apice utrinque cirrhosa. *Anthera* sub-bilocularis, antice truncata. *Pollinia* 2 postice biloba vel sulcata; *caudicula* maxima nuda demum elastice contractili; *glandula* cartilaginea subquadrata.—Herbæ *terrestres vel epiphytæ; caulibus brevibus fusiformibus, vestigiis foliorum vestitis.* Folia *basi vaginantia, plicata.* Scapi *radicales.* Flores *speciosi, racemosi, virides, nunc purpureo-maculati.* *Lindl.*

Catasetum *callosum*; petalis concoloribus lineari-lanceolatis sepalo dorsali conformi suppositis, labello ovato-deltoideo acuminato margine reflexo basin versus solummodo saccato supra saccum callo magno conico instructo, columnæ acuminatæ cirrhis vix ultra callum extensis.

Catasetum callosum. *Lindl. Bot. Reg.* 1840. *Misc.* 183. *et* 1841. tab. 5. f. 1.

β. *grandiflorum*; floribus majoribus labello magis acuminato viridi-rubro punctis sanguineis irroratis, callo roseo. (Tab. nostr. 4219.)

This singular plant, of which the flowers may, I think, be likened to the body and legs of a great spider, is from the rich collection in Syon Gardens, and was received by His Grace the Duke of Northumberland from Columbia. Notwithstanding the large size of the blossoms, and the slightly dissimilar form and different colour of the lip, I fear it can only be considered a variety of *C. callosum* of Dr. Lindley, and I am the more confirmed in this opinion from afterwards receiving from Syon a smaller state of the same plant, exactly, as it were, intermediate between the two. Its long pendent spikes of dingy purple flowers, of which the floral coverings are singularly divaricated, the three upper pieces being applied to the back of the column, the two lower to the under-side of the lip, are produced in December.

Descr. *Pseudo-bulbs* oblong, terete, sheathed with the large membranaceous bases of the lower and smaller leaves. Large *leaves* a foot or more in length, terminal, lanceolate, membranaceous, striated. *Scape* from the base of the pseudo-bulb, including the flowers, a foot and more long, the base green, the

rest having the same dull tinge of purple as the flowers. *Sepals* and *petals* uniform in shape and size and colour, linear-lanceolate, concave, dull, somewhat greenish-purple. The dorsal sepal and the petals approximated, parallel, all at the back of the column, the petals with their backs to the margin of the dorsal sepal, the two other sepals having an opposite direction and placed at the back of the lip. Lip ovato-deltoid, acuminate, thick and fleshy, variegated with dark green and red purple, the margin recurved, the base saccate, and above the sack is a conical callosity of a red colour (yellow in *a*); the whole sprinkled with deep blood-coloured dots. *Column* half the length of the sepals, acuminated, grooved in front, below having two setæ, which extend downwards a little beyond the callosity of the lip.

Tab. 4220.

Kopsia fruticosa

Shrubby Kopsia.

Nat. Ord. Apocynaceæ.—Pentandria Monogynia.

Gen. Char. Kopsia, *Bl.*—*Calyx* 5-partitus; lobis oblongis, obtusis, ciliolatis, imbricatis, erectis, externe ad apicem glandulosis, interne eglandulosis. *Corolla* hypocraterimorpha; tubo calyce multo longiore, apice inflato, intus piloso; ore calloso, piloso, exappendiculato; lobis tubo brevioribus æstivatione sinistrorsum contortis. *Stamina* 5, parte inflata tubi inserta; filamentis tenuibus; *antheris* lanceolatis, acuminatis, filamento longioribus. *Nectarium* e ligulis 2 cum ovariis alternantibus, glabris. *Ovaria* 2 ovata, facie interna adpressa. *Ovula* 2 (nec 1 ut dicitur), medio placentæ in ovario prominentis nascentia, amphitropa. *Stylus* tubum corollæ subæquans. *Stigma* incrassatum, apice bilobum. *Drupæ* abortu sæpius solitariæ, coriaceæ, monospermæ. *Semen* ovato-oblongum, exalbuminosum, radicula supera.—Frutices *vel* arbusculæ *elegantes*; foliis *stricte oppositis, ellipticis, apice obtuse acuminatis, basi acuminatis, integris, glabris, nervis lateralibus patentibus subarcuatis, venis reticulatis, petiolo basi dilatato, canaliculato; gemmis glandulisve axillaribus stipulæformibus; cymis terminalibus, abbreviatis, multifloris, bracteis ovato-acutis, roseis.* DC.

Kopsia *fruticosa*; lobis corollæ elliptico-obovatis obtusiusculis tubo duplo brevioribus, ligulis nectarii ovario hirsuto subbrevioribus.

Kopsia fruticosa, *De Cand. Prodr. v.* 8. *p.* 352.

Cerbera fruticosa, *Carey, Hort. Beng.* 19. *Ker, Bot. Reg. t.* 391. *Roxb. Fl. Ind. v.* 2. *p.* 526. *Wall. Cat. n.* 1583. *Wight, Ic. t.* 431.

Calpicarpum Roxburghii, *Don. Dict. v.* 4. *p.* 100.

"From Pegu," says Dr. Roxburgh, "this elegant shrub has been introduced into the Botanic Garden of Calcutta, where it is in constant blossom. The flowers are like those of *Vinca rosea*, but larger, and faintly fragrant. It is, in fact, one of the most ornamental shrubs in the garden."—This is not saying too much for certainly in cultivation this plant is a great ornament to our stoves, and though not in constant flower, it blooms several times in the year and at very uncertain seasons, and continues some time in beauty. From *Cerbera*, in which genus Roxburgh and others placed it, De Candolle says, "valde distinctum, non solum squamis juxta ovaria, aliisque characteribus cognitis, sed æstivatione corollæ." Finding it to correspond with *Kopsia* of

Blume, that author has no doubt rightly referred it to that genus, of which he gives three specimens and one doubtful one. All are natives of the Malayan peninsula or islands. Messrs. Whitley and Brame, appear to have first imported it into Europe.

The name is probably given in compliment to some botanist with whose merits I am unacquainted.

Descr. Our plant is scarcely a foot high, dichotomously branching, woody below, everywhere glabrous. *Leaves* opposite, subsessile, oblong-lanceolate, acuminate, entire, somewhat waved, penninerved, the nerves almost horizontally patent. *Corymbs* terminal, almost sessile. *Bracteas* minute, squamiform, acute, appressed. *Calyx* of five, deep, ovate, obtuse, imbricating *segments*, each with a large, oval gland at the apex. *Corolla* salver-shaped; *tube* very long, slender, white, dilated at the mouth and there hairy within, where the small, almost sessile, linear *anthers* are inserted and included. *Limb* of five large spreading obovato-elliptical segments, of a pale very delicate rose-colour, and having a deep rose-coloured ring round the faux. *Ovaries* two, small, hairy, combined, obtuse, at each side of which is a subulate gland. *Style* as long as the tube, slender, filiform. *Stigma* thickened, and two-lobed at the joint.

Fig. 1. Calyx and Portion of the style. 2. Pistil. 3. Tube of the corolla laid open. 4. Ovaries and two glands cut through transversely :—*magnified*.

Tab. 4221.

ARISTOLOCHIA GIGANTEA.

Gigantic-flowered Birthwort.

Nat. Ord. Aristolochieæ.—Gynandria Hexandria.

Gen. Char. *Perianthium* monophyllum tubulosum basi ventricosum, limbo ligulato-extenso. *Antheræ* 6, stigmatis lateribus adnatæ. *Stigma* subsessile, sex-partitum. *Capsula* 6, locularis, polysperma.

Aristolochia *gigantea*; foliis cordatis acutis, pedunculo unifloro, perianthio amplo unilabiato oblique pendente, tubo sursum curvato, parte inferiore oblonga angulato-sulcata demum contracta, parte superiore assurgente hinc inflato-globoso, superne in limbum maximum concavo-conchiformem venosum album maculis purpureis reticulatis irroratum, margine anteriore fisso, apice mucronato-caudato.

Aristolochia gigantea. *Martius, Nov. Gen. et Sp. Bras. v.* 1. *p.* 75. *t.* 48. *Spreng. Syst. Veget. v.* 3. *p.* 750.

At the first view of the figure of Martius above quoted, few would be bold enough to say that that representation and our plant are identical, yet such I believe to be the fact, though no two flowers can well be more unlike, whether as regards form or colour, and yet belong to the same genus. The difference may be accounted for by supposing the drawing to be made from a dried specimen, when the pressure vertically upon the mouth of the perianth, would destroy the conchiform limb, and render that which is remarkably concave, in appearance flat; and the same kind of pressure would in all probability render very indistinct or altogether obsolete, the singular inflation of the tube of the perianth just below the ample limb. It is in reality a very striking and handsome flower, and rendered more worthy of cultivation in consequence of the absence of the horrid stench which will prevent the much larger blossoms of *A. gigas*, Lindl., from ever becoming favourite inmates of our stoves. I am indebted to Messrs. Lucombe, Pince, and Co., for the very fine specimen here figured. Those successful cultivators received it from Germany. Its native country is, according to Martius, in the province of Bahia, Brazil, from which territory it was probably introduced to the stoves in Germany. It flowered in April (1845).

Descr. An extensive climber, with the young *branches* terete glabrous. *Petioles* scarcely two inches long, surrounded at their base by a perfoliate *stipule*. *Leaves* rather large, cordate, acute, with the sinus shallow and broad, so that the outline approaches to reniform, five-nerved and reticulated with transverse veins, somewhat glaucous beneath, glabrous on both sides. *Peduncle* axillary pendent, having a perfoliate bractea below the middle, and gradually enlarging above into the clavate, angled, *orary*. *Perianth* very large, 9–10 inches long, if the curvature of the tube is taken into consideration. The tube is cream-white, tinged with green; the lower (pendent) half is oblong, inflated, obscurely veined, three-angled at the back, and having two pairs of oval depressions or *glands* at the base; the *tube* thence becomes contracted, bent like a syphon, then enlarging and becoming excessively inflated on one (the anterior) side; again it becomes contracted, and at once expands into the ample, singularly concave, almost conchiform limb, reticulated with veins, prominent on the outside, where it is cream-coloured, mottled with pale purple; within, it is white or nearly so, but the veins are purple and the areolæ sprinkled with purple: the margin is waved, and is split down at the anterior edge: the apex is tipped with an apiculus or short tail scarcely an inch long. Within, towards the mouth of the tube, the colour is much deeper and of a more uniform purple. *Column* of stamens an oblong fleshy body, with six incurved teeth and as many linear *anthers*.

Fig. 1. Column of stamens of which the apex forms the stigma :—*natural size*.

Fitch del et lith

Reeve Lith.

Tab. 4222.

ARIOPSIS peltata.

Peltate Ariopsis.

Nat. Ord. Aroideæ.—Monœcia Polyandria.

Gen. Char. ARIOPSIS, *J. Grah.* *Spadix* inferne spathæ marcescentis cymbiformi carinatæ adhærens, inferne fœmineus, superne masculus. Masc. *Antheræ* in cavitatibus partis superioris clavatæ spadicis immersæ, annulatim dispositæ, globosæ apice uniporosæ, in singula cavitate 6.—Fœm. Ovaria subsex, distiche disposita oblique ovata, angulata, stigmatibus 3–5 erectis, sessilibus. *Bacca* subsicca, epulposa, ovata, 3–5-angulata, unilocularis, placentis 3–5 longitudinalibus angulis alternantibus, polyspermis. *Semina* numerosa, in singula placenta biseriatim inserta, oblongo-cylindracea, basi incrassata, minutissime striata. *Embryo* fusiformi-cylindraceus.—Herba *parva, acaulis, Indica.* Rhizoma *glomerato-tuberiforme, subtus fibrosum.* Folia *glaucescentia cordata, concava, longe petiolata peltata, glabra.* Scapi *petiolo breviores, e basi vaginante petioli orti.* Spatha *nutans, cymbiformis, carinata, acuta.* Spadix *parte inferiore fœmineus spathæ omnino adhærens, reliqua clavata, substipitata, foraminosa.* Antheræ *omnino immersæ.*

Ariopsis peltata. *J. Graham in Cat. Pl. Bomb. Addend. p.* 252.

Ramusatia * vivipara. *Wight, Ic. Pl. Ind. Or. v.* 3. *t.* 900 (*not t.* 798, *and not of Schott.*).

An extremely curious new genus of *Aroideæ*, discovered by our friend J. S. Law, Esq., in the neighbourhood of his residence, Tanna, district of Bombay, and of which tubers were kindly sent by him to the Royal Gardens, where they flowered in August, 1845. It is one of the best marked and smallest of any genus of the Natural Order, and reminds one more of the growth of a *Cyclamen* than of an *Aroideous* plant.

Descr. From under the side of and all round a cluster of brown tuber-like *root-stocks*, half buried in the earth, spring the

* The figure of Dr. Wright above quoted leaves not a shadow of doubt in my mind of the correctness of this synonyme, but that zealous and able botanist considers this plant to be identical with a very remarkable aroideous plant which we have long cultivated in our stove, the *Arum* (*Ramusatia*, Schott) *viviparum* of Roxburgh, in short, that it is the normal state of that plant; whereas, in his own representation of the two plants, the leaves are quite different, especially the venation: nor does Schott's description of the genus *Ramusatia* at all accord with our plant.

petioles, which then curve upwards, and bear the small, delicate, peltate *leaf*. From the slightly sheathing bases of these petioles arise one or two *scapes*, little more than half the length of the petiole, terminated by a slightly drooping, cymbiform, carinate, purple-brown, acute *spatha*. The lower part of the spadix is incorporated with the deep purple-coloured spatha, and bears the green *ovaries*: the upper is purple, club-shaped and substipitate, and bears the yellow sessile *anthers* arranged in a circle within the cup-shaped cavities: the whole spadix is shorter than the spatha. The free portion of the spadix then withers and the ovaries become greatly enlarged, when the weight occasions the scapes to bend down towards the ground, sometimes becoming more or less spiral, and thus giving still more the appearance of a *Cyclamen*. The immature *berry* is nearly dry, having no pulp within, and very numerous seeds are arranged in two rows along as many placentæ as there are angles and stigmas, 3–5.

The name is doubtless from ἄρον, the *Arum*, united with ὄψις, implying *resemblance*, from its close affinity with the genus *Arum*.

Fig. 1. Side view, and 2, frond view (or nearly so) of the spadix and spatha, the base of the former incorporated with the base of the latter. 3. Vertical section of the antheriferous portion of the spadix. 4. Circle of anthers in the foramen. 5. Single anther. 6. Pistils. 7. Nearly mature fruits on the withery spadix and spatha. 8. Transverse section of scarcely mature fruit. 9. Vertical section of ditto. 10. Seed and podosperm. 11. Embryo:—*all more or less magnified.*

4223.

Fitch del et . th.   Reeve imp.

Tab. 4223.

BOUVARDIA longiflora.

Long-flowered Bouvardia.

Nat. Ord. Rubiaceæ.—Tetrandria Monogynia.

Gen. Char. *Calycis* tubus subglobosus, *limbus* 4-partitus, lobis lineari-subulatis, dentibus interdum interjectis. *Corolla* infundibuliformis tubulosa elongata extus velutino-papillosa, *fauce* nuda, limbo 4-partito patente brevi. *Staminum filamenta* tubo inferne adnata a medio circiter libera, *antheræ* lineares inclusa. *Stigma* bilamellatum exsertum. *Ovarii* pars superior nuda. *Capsula* membranacea globoso-compressa bilocularis superne loculicide dehiscens, valvis semiseptiferis. *Placentæ* orbiculares. *Semina* in quoque loculo plurima compressa, deorsum (seu sursum) imbricata, ala membranacea cincta.—Frutices *Mexicani*. Folia *opposita aut verticillata*. Stipulæ *angustæ acutæ petiolis utrinque adnatæ*. Pedunculi *terminales triflori aut trichotome corymbosi*. DC.

Bouvardia *longiflora*; ramis compresso-tetragonis glabris, foliis ovatis acuminatis basi in petiolum attenuatis integerrimis glabris, stipulis latis petiolis adnatis ciliatis, floribus terminalibus subtrichotome corymbosis, pedunculis foliosis, calycis lobis lanceolatis subfoliaceis tubo gracili corollæ triplo-quadruplove brevioribus.

Bouvardia longiflora, *H. B. K. Nov. Gen. Am. v.* 3. *p.* 386. *De Cand. Prodr. v.* 4. *p.* 366.

Aginetia longiflora, *Cav. Ic. v.* 6. *p.* 51. *t.* 572. *f.* 1.

Bouvardia is a Mexican genus of Rubiaceous plants, named by Mr. Salisbury in compliment to Dr. Charles Bouvard, who was formerly superintendent of the *Jardin du Roi* at Paris. In most of the species the flowers are small; here they are large, pure white, and exhaling a delicious Jessamine-like fragrance, whence it becomes a most desirable stove plant. We know not if any garden possesses this charming *Bouvardia*, save that of the Earl of Derby, to whom I am indebted for the specimen here figured, and who received it from Ifzabal. It inhabits also Santa Anista, according to Humboldt, where it is called "*Flor de San Juan*," and the vicinity of Queretaro and Huanajuato. My Herbarium possesses also native specimens from Mr. Skinner, gathered iu Guatemala. In habit and form of corolla this is closely allied to *Hindsia*, but the seeds, according to Cavanilles' figure, are those of *Coffeaceæ*, not of *Cinchonaceæ*.

Descr. A branching *shrub*, with slender, glabrous, slightly compressed, but tetragonal *branches*. *Leaves* ovate, acuminate, entire, glabrous, cuneate at the base, petioled, the base of each pair of petioles united on either side by a pair of small scale-like, fimbriated or ciliated *stipules*. *Flowers* terminal, sometimes two or three together, at other times the upper part of the branch is trichotomously divided into a *corymb* of several, 10–12, large, snowy, very fragrant *blossoms*: the main branches are furnished with a pair of small leaves. *Calyx-tube* subglobose, with erecto-patent, lanceolate, leafy segments, obscurely ciliated at the margins. *Corolla* hypocrateriform, the *tube* long, slender, enlarged at the summit and partially closed with four obtuse scales. *Limb* of four, ovato-lanceolate, spreading segments. *Stamens* four, included. *Style* short. *Stigma* bifid.

Fig. 1. Calyx and pistil. 2. Mouth of corolla laid open. 3. Ovary. 4. The same cut through transversely :—*magnified.*

Reeve imp.

Tab. 4224.

APHELANDRA AURANTIACA

Orange Aphelandra.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx quinquepartitus, inæqualis. *Corolla* hypogyna, ringens, labio superiore subfornicato, bidentato, inferioris tripartiti laciniis lateralibus multo minoribus. *Stamina* 4, corollæ tubo inserta, inclusa, didynama, *antheræ* uniloculares, muticæ. *Ovarium* biloculare, loculis biovulatis. *Stylus* simplex; stigma bifidum. *Capsula* teretiuscula, bilocularis, tetrasperma, loculicide bivalvis, valvis medio septiferis. *Semina* compressa, retinaculis subtensa.—Frutices *Americæ tropicæ*; foliis *oppositis*, *spicis axillaribus et terminalibus tetragonis*, *bracteis oppositis*, *submembranaceis*, *bracteolis angustis*, corollis *speciosis rubicundis*. Endlich.

Aphelandra *aurantiaca*; foliis ovatis glabris basi undulatis in petiolum crassum alatum decurrentibus, spicis simplicibus incrassatis subtetragonis, bracteis ovatis acuminatis carinatis serratis, corollæ (aurantiacæ) labio superiore erecto lanceolato parvo, inferiore amplo, lobis ovatis lateralibus triplo minoribus.

Aphelandra aurantiaca. *Lindl. Bot. Reg.* 1845, *t.* 12.

Handsome as is the well-known *Aphelandra cristata*, the present species far exceeds it in the size and rich orange-colour of the spikes, and it possesses another advantage, in the flowers appearing upon small handsome looking plants. We regret that we cannot add to the little information given by Dr. Lindley respecting the history of this plant. Nothing certain is known of the country. It was presented by Mr. Henderson, of Pine-apple Place, to the Royal Gardens of Kew, where it flowered in the stove in the autumn of 1845, and where it made a very striking appearance. It blossomed at the same season, with even larger spikes of flowers, at the Nursery of Messrs. Lucombe, Pince, and Co., Exeter. The generic name was given by Dr. Brown, and is derived from ἀφέλης, *simple*, and ἀνὴρ, *stamen*; in allusion, I presume, to the single-celled anther, as distinguishing the genus from *Justicia*.

Descr. A small *shrub*, not much branched; the young *branches* green, rounded, glabrous as is every part of the plant.

Leaves rather large, handsome, decurved, ovate, strongly nerved, the margin below waved, and then running down into a thick winged petiole. *Petioles* connate at the base. *Spikes* solitary, terminal, large and thick, five to six inches long, almost four-sided before the flowers burst forth, and formed by a number of ovato-acuminate, serrated, imbricated, pale yellow-green *bracteas*. From a number of these *bracteas* several very rich, deep orange-coloured *flowers* expand at a time, gradually opening from below upwards. *Calyx* cylindrical, of five linear-lanceolate *sepals*, with two subulate bracteas at the base. *Tube of the corolla* almost wholly concealed by the bracteas; *limb* ringent, upper lip small, lanceolate, bidentate, the sides almost meeting in front and concealing the stamens; lower lip ample, deflexed, deeply three-lobed, lobes ovate, middle lobe very large, often three-toothed at the apex; lateral lobes small. *Stamen*, with the *filaments* glandular, the *anthers* sagittate, one-celled. *Ovary* oblong-ovate, on a large fleshy disk. *Style* filiform, as long as the corolla.

Fig. 1. Inner bracteas, calyx and pistil. 2. Stamen. 3. Ovary :—*magnified.*

1

3

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Fitch del et lith.

Reeve imp

Tab. 4225.

ERANTHEMUM albiflorum.

White-flowered Eranthemum

Nat. Ord. Acanthaceæ.—Diandria Monogynia.

Gen. Char. *Calyx* 5-fidus, æqualis. *Corolla* hypocrateriformis, v. elongato-infundibuliformis, *tubo* longo gracili, *limbo* subæquali. *Stamina* duo fertilia circa os tubi adnata, longe decurrentia; duo sterilia brevissima, filamentis longiorum basi connexa; in speciebus nonnullis anomalis hæc rudimenta omnino desunt. *Antheræ* exsertæ, bilocellatæ, muticæ, locellis parallelis contiguis, texturæ densioris. *Capsula* inferne compressa, valvulis contiguis, asperma; superne bilocularis tetrasperma. *Dissepimentum* adnatum. *Semina* discoidea, retinaculis suffulta. Inflorescentia *spicata, bracteis communibus majoribus aut minoribus bracteolis omnium parvis oppositis. Nees.*

Eranthemum *albiflorum*; fruticosum glabrum, ramis teretibus, foliis oppositis sessilibus obovato-oblongis brevi-acuminatis subpanduriformibus, racemis terminalibus erectis elongatis multifloris, pedicellis brevissimis minute bracteatis, calyce nudo parvo 5-fido, corollæ (albæ) tubo curvato superne inflato calyce 4-plo longiore, limbi laciniis ovalibus obtusis subæqualibus plicato-striatis.

We are so accustomed to the bright blue of the flowers of an *Eranthemum*, that it is not easy at first sight to persuade oneself that the present plant is of that genus, with its long almost virgate racemes of snow-white flowers: yet a nearer inspection will show that it has all the essential characters of it. The fertile stamens, it is true, are not exserted; but neither are they in *E. montanum*, an acknowledged species of *Eranthemum*. It was raised from seed from Bahia, by Messrs. Lucombe, Pince, and Co., of Exeter, and by them kindly sent for the pages of this Magazine in November, 1845. Its foliage is large and handsome, dark-green, and its long spikes or racemes of pure white blossoms render the plant a pretty, though not a gaily-coloured object. It is cultivated in the stove.

Descr. A *shrub*, about two and a half feet high, with rounded or slightly striated *stems*, and opposite ascending *branches*. *Leaves* large (especially the lower ones), handsome, full deep-green, opposite, sessile, obovato-oblong, entire, shortly acuminated, penninerved, obtuse at the base, and a little contracted above

the base so as to be subpanduriform. *Racemes* elongated, tapering, pedunculated; *peduncles* terminal, solitary or three together. *Flowers* copious, white. *Pedicels* very short, clustered, having one or two minute *bracteas* at the base. *Calyx* small (for the size of the corolla), cut about half way down into five subulate teeth. *Corolla* white; the *tube* three or four times as long as the calyx, curved, dilated upwards; *mouth*, however, again contracted; the *limb* of five spreading, oval, obtuse, nearly equal segments, striated and transversely plicate. *Stamen* included, white; two perfect with two-celled anthers, approximate; two small filaments abortive. *Ovary* oblong. *Style* included; *stigma* obtuse.

Fig. 1. Flower. 2. Stamens. 3. Pistil:—*magnified.*

Fitch, del et lith

Reeve, imp:

Tab. 4226.

ANONA palustris.

Water or Alligator-Apple Tree.

Nat. Ord. Anonaceæ.—Polyandria Monogynia.

Gen. Char. Sepala 3 basi coalita concava subcordata acutiuscula. *Petala* 5 crassiuscula, interiora minora aut nulla; *antheræ* plurimæ subsessiles apice angulatæ dilatatæ torum obtegentes. Carpella plurima coalita in baccam unicam sessilem cortice muricato squamoso aut reticulato, intus pulposam, ad ambitum pluri-locularem, loculis 1-spermis. *DC.*

Anona *palustris*; foliis ovato-ellipticis subcuspidatis basi obtusiusculis glaberrimis, pedunculis extra-axillaribus solitariis unifloris, petalis rotundato-ovatis acutis crassis interioribus dimidio minoribus, ovariis in massam compactam coadunatis, fructu areolato areolis oblongis planiusculis.

Anona palustris, *Linn. Sp. Pl. p.* 754. *Sw. Obs. p.* 223. *Hort. Kew. ed.* 2. *v.* 3. *p.* 335. *Spreng. Syst. Veget. v.* 2. *p.* 640. *De Cand. Prodr. v.* 1. *p.* 84. *Macfad. Jam. p.* 8. *St. Hil. Pl. Us. Bras. t.* 30.

Anona glabra, *Dun. Anon. p.* 74. *De Cand. Prodr. v.* 1. *p.* 475.

Anona aquatica, *Sloane, Jam. Hist. v.* 2. *p.* 169. *t.* 228. *f.* 1.

Anona uliginosa, foliis nitidis ovatis, &c. *Brown, Jam. p.* 256.

Introduced to our gardens from the West Indies by Ph. Miller in 1731, and long cultivated at Kew, where it has never flowered. For blooming specimens, and others with their rich and fragrant and tempting-looking fruit, I am indebted to Mrs. Sherbourne, of Hurst House, Prescott, a lady whose name has already appeared in these pages as the importer of rare flowering plants, but whose success in cultivating tropical fruits is, beyond anything, great; as I can testify by a recent present of such a basket of different kinds of the Citron tribe as were deemed worthy of gracing the table of royalty itself. In regard to the fruit here represented, it is only to be regretted that the flavour is not equal to its beauty. But though closely allied to the famous Cherimolia, *Anona tripetala* (Bot. Mag. Tab. 2011), it is scarcely eatable. Sloane indeed says, "the country people could say nothing of it, except that it was edible;" but Dr. M'c Fadyen remarks, "the fruit has a somewhat grateful smell, but to the taste it is very disagreeable, and is said to be narcotic and even poisonous." The

Alligators, according to Long, subsist at certain seasons on the fruit of this tree, and he describes them as watching for it, when ripe, to drop into the water. The wood is very light, and is employed by the negroes as a substitute for cork, to stop up the mouths of their calabashes and other rude vessels. The floats of fishing nets are also made of it. *Anona palustris* flowered for the first time in June, 1843, in the stove at Hurst House. The fruit here figured ripened in August, 1845.

Descr. A *tree*, six to fifteen feet in height, with ever-green, elliptical-ovate, very acute, glabrous *leaves*, on rather short *petioles*. *Peduncles* lateral, but not axillary, solitary, single-flowered. *Calyx* of three small rounded lobes. *Petals* thick and fleshy, pale greenish yellow, each with a red blotch within, deeper in the inner petals. *Stamens* and *pistils* numerous, crowded. *Fruit* ovato-rotundate, yellowish-brown when ripe, deep orange within, formed of a congeries of closely compact acini. *Seed* conferruminated, as in the Genus.

Fig. 1. Fruit. 2. The same laid open. 3. Seed in its pulp:—*natural size.* 4. Seed laid open:—*magnified.*

Reeve, imp

Tab. 4227.

SIDA (Abutilon) vitifolia.

Vine-leaved Sida.

Nat. Ord. Malvaceæ.—Monadelphia Polyandria.

Gen. Char. *Calyx* nudus, 5–fidus, sæpe angulatus. *Stylus* apice multifidus. *Carpella* capsularia 5–30 circa axim verticillata, plus minusve inter se coalita, 1-locularia, mono- aut oligo-sperma, apice mutica aut aristata. *DC.*

Sida *vitifolia* : foliis cordatis 3–5–7-lobatis lobis acuminatis serratis, pedunculis terminalibus racemoso-umbellatis petiolo longioribus, carpellis 9 apice longe biaristatis.

Sida vitifolia. *Cav. Ic. v.* 5. *p.* 428. *De Cand. Prodr. v.* 1. *p.* 472. *Spreng. Syst. Veget. v.* 3. *p.* 116. *Hook. et Arn. Bot. Misc. v.* 3. *p.* 154.

Abutilon vitifolium. *Presl, Reliq. Hænk. v.* 2. *p.* 116. *Lindl. Bot. Reg.* 1844, *t.* 57.

One of the handsomest of the genus, but too much of the 'Mallow' kind to be a general favourite with cultivators. Seeds were sent from Chili to Mr. Veitch, by his collector, Mr. W. Lobb, in 1844, and plants blossomed in the greenhouse in May, 1845. The plant was first, however, brought to Europe by Capt. Cottingham, in 1836, and was cultivated in the open border, in Dublin, for three years without any shelter. In England, generally, however, it requires the protection of a greenhouse.

Descr. A *Shrub*, 4-6 feet high, downy in almost every part, with terete *branches*. *Leaves* alternate, petiolate, cordate, 3–7-lobed, lobes acuminate, especially the terminal one, all coarsely but bluntly doubly serrated; petioles shorter than the blade. *Flowers* terminal, forming corymbose *racemes*, which are longer than the petioles, large, showy. *Pedicels* rounded. *Calyx* almost campanulate, blunt at the base, deeply five-cleft, with broad, acute segments; *bracteas* under the calyx none. *Corolla* of 5, large, spreading, obcordate, blueish lilac, striated *petals*, united at the base by their hairy claws. *Stamens* in five, rather short fascicles, united below into a still shorter tube. *Anthers* one-celled, yellow. *Ovaries* 9–10, united in a circle, each ovary

or each cell with several ovules. *Styles* as many as ovaries, reflexed, clubbed, united below into one.

Fig. 1. Portion of the base of the corolla with three fascicles of stamens. 2. Pistils. 3. Section of the united ovaries :—*magnified.*

Tab. 4228.

MAXILLARIA MACROBULBON.

Large-bulbed Maxillaria.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Perianthium connivens raro patens. *Sepala* lateralia cum basi producta columnæ connata. *Petala* subconformia. *Labellum* trilobum, cucullatum, sessile, cum basi producta columnæ articulatum. *Columna* semiteres, aptera. *Anthera* subbilocularis. *Pollinia* 2, bipartibilia vel integra, caudicula brevi, glandula transversa.—Epiphytæ *(Americanæ), pseudo-bulbosæ, acaules v. caulescentes.* Folia *plicata vel coriacea.* Pedunculi *radicales, axillares v. terminales, uni- vel multiflori. Lindl.*

Maxillaria *macrobulbon*; pseudo-bulbis magnis ovatis compressis, foliis plurimis oblongis membranaceis nervosis, pedunculis radicalibus solitariis unifloris, vaginis distantibus inflatis, sepalis oblongo-ovatis patentibus basi parum productis, petalis minoribus latioribus, labello longitudine petalorum oblongo trilobo disco lamella oblonga, lobo intermedio oblongo-ovato **recurvo crispatulo.**

Sent from Sierra Nevada, Santa Martha, by our collector, Mr. Purdie, to the Royal Gardens of Kew. It has some characters in common with *M. aromatica*, Hook. Exot. Fl. t. 219, and with *M. cruenta*, Lindl. Bot. Reg., 1842, t. 13.; from the former it may be known by the larger size in every part of the plant, by the scentless flowers and different shape of the lip; from the latter by its smaller differently coloured blossoms, by the very dissimilar labellum and the absence of the crimson blotch on its under side.

Descr. *Pseudo-bulbs* large, ovate, compressed, in age slightly wrinkled, bearing from the summit several large, oblong, membranaceous, waved, acute, *leaves*. *Peduncles* generally two, one on each side of a pseudo-bulb, much shorter than the leaves, partially sheathed with distant inflated scales, single-flowered. *Flowers* rather large, paleish yellow. *Sepals* ovato-oblong, spreading, a little waved, united at the base so as to form a short blunt spur. *Petals* shorter and broader than the sepals. *Lip* the length of the petals, oblong, concave, three-lobed, spotted on the disc and with

a tongue-shaped lamella, lateral lobes short, terminal lobe ovato-oblong, reflexed, a little crisped.

Fig. 1. Lip :—*slightly magnified.*

Tab. 4229.

TORENIA EDENTULA.

Purple-blotched Torenia.

Nat. Ord. Scrophularineæ.—Didynamia Angiospermia.

Gen. Char. *Calyx* tubulosus, plicatus, apice oblique 5-dentatus v. bilabiatus, labiis 2–3-dentatis. *Corolla* ringens, labio superiore bifido, inferiore trifido, laciniis subplanis. *Stamina* fertilia 4, didynama, 2 superiora brevia filamentis integris, 2 inferiora ad basin labii inferioris inserta, filamentis elongatis arcuatis, basi appendice dentiformi vel filiformi auctis. *Antheræ* per paria cohærentes approximatæ, biloculares, loculis divergentibus divaricatisve apice confluentibus. *Stylus* simplex, stigmate complanato bilamellato v. simplici (?). *Capsula* oblonga calyce brevior, bivalvis, valvulis integris margine planis, dissepimento parallelo placentifero demum libero.—Herbæ *ramosæ*, *glabræ v. villosæ*, *haud diffusæ*. Folia *opposita sæpius dentata*. Flores *axillares*, *oppositi v. fasciculati*, *interdum racemosi*. *Benth.*

Torenia *edentula*; pubescens, foliis late ovatis subcordatis grosse serratis, pedunculis axillaribus solitariis vel terminalibus subaggregatis nunc racemosis folio brevioribus demum fructiferis refractis, corollis calyce ovato vix longioribus, filamentis omnibus edentulis.

Torenia edentula. *Benth. in Hook. Herb.*

This very pretty annual made its appearance in some earth in flower-pots in the stove at Kew, and had no doubt come from some part of the East Indies. I at first supposed it was the *Torenia Asiatica*, L., but a slight comparison of the calyx and flowers convinced me of my error; and I find it to corrrespond exactly with a species from Assam, in my Herbarium, marked by Mr. Bentham, '*T. edentula*.' It is, probably, found also in other parts of our eastern possessions, and will doubtless appear under that name in the forthcoming volume of De Candolle's Prodromus. The broad calyx, as long, or nearly so, as the tube of the corolla, is very characteristic of this species, and the two deep purple blotches which render the blossoms so bright and lively are conspicuous even in my dried specimens. The genus was named in honour of Olof Toreen, chaplain of a vessel in the Swedish East India Company, who published a voyage to China between the years 1750, and 1752. The present species flowered with us during the months of July and August.

May 1st, 1846.

Descr. *Root* annual. *Stem* erect, but weak, much branched with opposite square branches, the lower ones spreading. *Leaves* opposite, petiolate, ovate, acuminate, approaching to cordate, coarsely serrated, downy or slightly hairy, as is nearly the whole plant, more or less. *Peduncles* axillary, solitary, single-flowered or terminal, and more or less clustered, often three together, and thus the middle is frequently a three-flowered *raceme*, always shorter than the leaves, or only in fruit elongated, the same length, or longer than the leaves, and refracted. *Calyx* ovate, plicate, so as to appear winged at the angles, two-lipped, glabrous. *Corolla* with the tube inflated above, almost wholly included in the calyx, green, tinged with purple. *Limb* of five, nearly equal, rounded lobes, yellowish-white, variegated with pale purple, two upper lobes (forming the upper lip) standing forward and the apices a little incurved when perfect (not well represented in our figure); lower lip three-lobed, the two lateral lobes each with a deep purple blotch. Two inferior *stamens* included; the two upper ones exserted. *Ovary* oblong, arising from a glandular disc or ring. *Style* geniculated at the base. *Stigma* two-lipped, downy.

Fig. 1. Portion of the tube of the corolla with the stamens. 2. Pistil.

3
2
1

Tab. 4230.

ÆGIPHILA grandiflora.

Large yellow-flowered Ægiphila.

Nat. Ord. Verbenaceæ.—Didynamia Angiospermia.

Gen. Char. *Calyx* campanulatus v. turbinatus, quadridentatus. *Corolla* hypogyna, infundibuliformis v. hypocrateriformis, tubo calyce multo longiore, limbo quadripartito æquali. *Stamina* 4, corollæ tubo inserta, exserta, æqualia. *Ovarium* 4-loculare, loculis uniovulatis. *Stylus* terminalis, bifidus. *Bacca* quadrilocularis v. abortu bilocularis. *Semina* in loculo solitaria.—Arbores v. frutices *Americæ tropicæ*; foliis *oppositis simplicibus*, corymbis *axillaribus et terminalibus dichotomis, paniculatis*; corollis *flavis albis*. *Endl.*

Ægiphila *grandiflora*; glabra, ramis teretibus, foliis verticillatis oblongo-subobovatis brevissime petiolatis integerrimis basi obtusis subcordatis apice acutis, corymbo trichotome diviso pedunculato terminali basi bibracteato, calycis tubo brevi 5-dentato, 5-angulato, corolla (magna) longe tubulosa pubescente (flava), limbo 5-lobo, lobis patentibus acutis, staminibus exsertis, bacca obovato-rotundata compressa cyanea.

Of the native country of this very pretty shrub I regret to say we are ignorant. We are indebted for flowering specimens, in December, 1845, to Mr. Henderson, of Pine-apple Place, Kensington, who received plants from Mr. Makoy, of Liège, under the erroneous name of "yellow *Rondeletia*"; and about the same time also, from Messrs. Lucombe and Pince, of the Exeter Nursery. It is quite clear that this is no *Rondeletia*, nor any Rubiaceous plant, but a true *Ægiphila*, with singularly large yellow tubular flowers, well worthy a place in every collection, flowering as it does in the middle of winter in a warm stove, and then the flowers are succeeded by the glaucous-blue berries.

Descr. Our Plants are *shrubby*, one and a half to two feet high, every where glabrous (except the corolla). *Branches* terete, pale brown, woody. *Leaves* in rather distant whorls, four or five in a whorl, oblong, or rather approaching to obovate, entire, slightly waved, penninerved, very shortly petiolate, obtuse and even subcordate at the base, acute at the point. *Peduncle* terminal, 2-3 inches long, with a pair of *bracteas* immediately beneath the trichotomously divided, rather compact, many-flowered *corymb*. *Calyx* short, cup-shaped, pentagonal, with five

short upright teeth. *Corolla* very large for the genus, yellow, slightly downy; the tube an inch long, nearly cylindrical; the *limb* of five spreading nearly equal segments. *Stamens* protruded, didynamous, yellow; *filaments* glabrous; *anthers* oblongo-sagittate. *Orary* globose, four-celled, with a solitary *ovule* in each cell. *Style* as long as the tube of the corolla. *Stigma* bifid. *Berry* subglobose, but broadish at the top and compressed, of a rich blue colour (cyaneous) containing two perfect, elongated, semicylindrical stony seeds in a greenish pulp.

Fig. 1. Anther. 2. Pistil. 3. Section of an ovary:—*magnified.*

Fitch, del. et lith.

Reeve, imp.

Tab. 4231.

PINGUICULA orchidioides.

Orchis-like Butterwort.

Nat. Ord. Lentibularieæ.—Diandria Monogynia.

Gen. Char. *Calyx* bilabiatus, labio superiore 3-fido v. 3-partito, altero bifido v. bipartito. *Corolla* bilabiata aut rarius subregularis, labio ante florationem superiore bifido v. bipartito, inferiore trifido v. tripartito majore basi calcarato, lobis integris v. dentatis: palato sæpius maculato et villoso nunc gibbo. *Stamina* geminata, arcuata, corolla multo breviora, antheris approximatis, unilocularibus, globosis, vertice rima dehiscentibus. *Pollen* ovoideo-globosum. *Ovarium* ovoideum. *Stigma* sessile bilobum, lobo inferiore (id est, labio majori et staminibus opposito) plano rotundato fimbriato, supra antheras revoluto, superiore lanceolato minimo, sæpe abortiente. *Placenta* centralis libera stipitata. *Ovula* numerosa. *Capsula* erecta, sæpius ovoidea, valvis duabus lateralibus dehiscens. *Semina* numerosa, oblonga, minutissima, rugosa, extremitate angustiori affixa.—Herbæ *parvæ perennes in paludosis et humidis hemisphærici borealis extra tropicum et Americæ merid. præsertim in montibus habitantes*; foliis *omnibus rosulatis integerrimis, sessilibus v. brevissime petiolatis, glabris v. glanduloso-pilosis, margine plerumque involutis sæpe pinguibus*; scapis 1–3, *unifloris, nudis.* *DC.*

Pinguicula *orchidioides*; foliis biformibus extus parvis erectiusculis imbricatis copiosis ovatis acutis interioribus paucioribus laxis patentibus obovato-spathulatis obtusis concavis, scapo superne calyceque pubescentibus, corollæ bilabiatæ lobis subæqualibus obovatis retusis patenti-reflexis, tubo brevissimo, calcare porrecto curvato cylindraceo-acuminato, ovario villoso.

Pinguicula orchidioides. *Alph. De Cand. Prodr. v.* 8. *p.* 27.

Among the many interesting objects, to be seen at the Royal Gardens of Kew during the latter part of the present winter, (1845–6) was a number of pots of this most lovely species of *Pinguicula* in full blossom, plunged in *Sphagnum* and other mosses, in cool stoves, where they flourished as well as if they had been in their native mountains of Mexico. Living roots were sent to us by Mr. Repper, from the Real del Monte, which as soon as planted, began to exhibit the two forms of leaves here represented, the upper, or inner ones, almost resembling those of an *Echeveria*.

Descr. *Root* perennial. *Leaves* of two kinds; outer, or lower ones, small, numerous, closely imbricated, ovate, acute, the apex

a little reflexed; the upper, or inner ones, large, fewer, obovato-spathulate, concave; all of them pale, somewhat glaucous green colour. *Scapes* 3–5 from the same root, 4–5 inches high, each bearing a handsome purple *flower*, with a white throat and red-purple lines. *Calyx* 4-fid, the lower lobe bifid. *Corolla* of five nearly equal, reflexo-patent, retuse lobes, the two upper ones forming the upper lip, the three lower ones the lower lip. *Spur* as long as the *corolla*, porrected, curved, cylindrical and acuminate. *Stamens* two, as in the genus. *Pistil* hairy.

Fig. 1. Calyx, stamens, and pistil. 2. Pistil:—*magnified.*

4232.

Fitch del.et lith.

Reeve, imp.

Tab. 4232.

BARNADESIA rosea.

Rose-coloured Barnadesia.

Nat. Ord. Compos.-Mutisianæ.—Syngenesia Polygamia.

Gen. Char. *Capitulum* multiflorum homogamum. *Invol.* turbinatum multiseriale imbricatum, squamis interioribus radiantibus. *Recept.* palcis tenuissimis piliformibus spiraliter tortis dense vestitum. *Flores* aut dissimiles, exteriores biligulati, labio externo amplo 4-dentato int. filiformi, centrales tubulosi 5-dentati, aut omnes bilabiati. *Stam. filam.* aut omnium aut exteriorum monadelpha! *Antheræ* ecaudatæ. *Achænium* turbinatum dense sericeo-villosum. *Pappus* 1-serialis, nunc ubique plumosus, nunc in periphæria plumosus in disco setis hirsutis subrigidis constans.—Frutices *in Amer. austr. habitantes.* Aculei *sæpius stipulares subulati gemini.* Folia *alterna integerrima mucronata.* Capitula *terminalia.* Cor. *purpureæ villoso-sericeæ.* Pappus *et* recept. *pili fulvi.* *De Cand.*

Barnadesia *rosea*; capitulis solitariis ovato-cylindraceis pubescentibus sessilibus, flosculorum labio altero oblongo emarginato extus villoso altero filiformi, flore tubuloso centrali nullo, filamentis liberis, pilis receptaculi haud tortilibus, pappo rigido plumoso. *Lindl.*

Barnadesia rosea. *Lindl. Bot. Reg.* 1843. *p.* 29.

This singular and beautiful genus was named, by Linnæus, in honour of a Spanish botanist, Michael Barnadez. Eight species are characterized in the Prodromus of De Candolle, but, so imperfectly, that though probably the present is included among them, I think Dr. Lindley has done wisely in making of it a new species, and he has given an excellent specific character, here quoted, and a very characteristic figure. It is a native of South America, like all the other species, but its exact locality is not noted. All that seems to be known about it is, that it first flowered in the Duke of Northumberland's collection. With us it blossoms in the stove in the winter months, and is really a plant of great beauty, from the bright deep pink of its flowers. I possess specimens of what I consider the same, both from Peru and Brazil, and it probably has a very extensive range in the continent of South America.

Descr. A *Shrub*, with slender, weak, and, probably, in its wild state, trailing *stems*, rounded, slender, glabrous. *Leaves* alter-

nate, or sometimes opposite or ternate, obovato-lanceolate, acute and mucronate, entire, tapering below into a very short *petiole*. At the setting on of a branch or of a leaf, are frequently one or two short straight acicular *spines*, half an inch long. *Head* or *capitulum* of *flowers* large, handsome, solitary, sessile upon the apex of a branch, with two or three leaves at the base. *Involucre* long, cylindrical, swollen at the base. *Scales* numerous, imbricated, appressed, the lower ones broadly ovate, crowded, acute or mucronate, the upper ones gradually becoming longer, almost linear, erect, rose-coloured, with a white edge. *Florets* ligulate, two-lipped; outer lip deep rich rose-colour, with about four teeth, inner filiform, spreading: tube of the corolla hairy. *Anthers* united, shorter than the style; *stigma* obliquely truncate. *Achenium* (immature) hairy. *Pappus* likewise hairy or villous.

Fig. 2. Floret. 2. Portion of the hairy pappus. 3. Young floret, the corolla not yet expanded:—*magnified*.

Tab. 4233.

FUCHSIA macrantha.

Large-flowered apetalous Fuchsia.

Nat. Ord. Onagrarieæ.—Octandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4174.)

Fuchsia *macrantha*; apetala, fruticosa pubescens, foliis ovatis acutis integerrimis, pedunculis axillaribus solitariis v. aggregatis unifloris, floribus pendentibus calycis tubo longissimo subcylindraceo superne sensim latiore limbo quadrifido laciniis late ovatis erecto-patentibus, staminibus inclusis, ovario elongato-turbinato 4-sulcato, stylo exserto, stigmate capitato.

If this be not the most brilliantly coloured of Fuchsias it certainly can boast the largest flowers, and it bears them more copiously than any other species. It is moreover quite an undescribed species, first, however, found by Mr. Mathews, climbing on trees in lofty mountains at Andimarca, Peru (n. 1197 of Mathews' Collections), and it has been long in our Herbarium from that source, and next by Mr. Veitch's collector, Mr. William Lobb, detected in woods near Chasula, Columbia, at an elevation of 5,000 feet above the sea. It was exhibited by Mr. Veitch at the Horticultural Society's rooms, on the 7th of April, and attracted much attention.

The absence of petals in the flower of our plant, and the imperfect descriptions of *F. apetala*, would at first lead to the supposition that it was that rare and splendid species, but if the two plants be compared, or if *F. macrantha* be compared with Ruiz and Pavon's figure of *F. apetala*, the differences will be very apparent. It is quite a hardy Greenhouse species, and promises to succeed well in the open border in the summer months. As the season advances, the colour becomes more brilliant, and then the effect, with the numerous flowers quite concealing the stem and branches, is peculiarly striking. The plant seems scarcely to exceed two feet in height, and it is so free a flowerer that blossoms appear when the plant is only six inches high.

Descr. A rather low, straggling *shrub*, the side branches

spreading. *Leaves* rather large, ovate, acute, entire, petiolate. *Peduncle* single-flowered, solitary or aggregate, often among terminal leaves which are so small as to give the appearance of terminal corymbs, at other times the flowering branches are crowned with a tuft of leaves. *Flowers* pendulous, apetalous. *Calyx* very long, cylindrical, a little widening upwards, of a fine rose-red colour, the limb four-cleft; segments ovate, moderately spreading. *Corolla* none. *Stamens* included, that is, not longer than the segments of the calyx. *Ovary* inferior, turbinate, tapering at the base, furrowed. *Style* exserted. *Stigma* capitate.

Fitch, del. et lith

Reeve, imp

Tab. 4234.

CYPRIPEDIUM BARBATUM.

Bearded Ladies' Slipper.

Nat. Ord. Orchideæ.—Gynandria Diandria.

Gen. Char. *Perianthium* patens. *Sepala* lateralia connata aut distincta, labello supposita. *Petala* libera, sæpius angustiora. *Labellum* inflatum, margine utrinque auriculato inflexo. *Columna* nana. *Stamina* 3, quorum unum sterile centrale dilatatum inflexum, et 2 fertilia lateralia. *Antheræ* sub stamine sterili latentes, subrotundæ, 2-loculares. *Pollen* pulvereo-granulosum. *Stylus* subliber, teres, stigmate disciformi terminatus.—Herbæ *terrestres utriusque orbis, ab equatore fere ad circulum arcticum vagantes.* Folia *radicalia aut caulinia, coriacea aut plicata.* Flores *solitarii racemosi v. paniculati, speciosi.* *Lindl.*

Cypripedium *barbatum*; acaule, foliis coriaceis acutis canaliculatis maculatis, scapo pubescente, sepalo dorsali cuspidato obtuso ciliato margine revoluto, petalis lineari-oblongis subundulatis fimbriatis margine superiore verrucoso, stamine sterili lunato pubescente. *Lindl.*

Cypripedium barbatum. *Lindl. Bot. Reg.* 1841. *Misc. n.* 110. *Bot. Reg.* 1842. *t.* 17.

Cypripedium Javanicum. *Bl. Cat.* 98. *Hassk. Cat. Hort. Bogor. p.* 48.

It is with no small reluctance that I represent this as a species distinct from *Cypripedium venustum*, Wall. in Bot. Mag. t. 2129, and Exot. Fl. t. 35; or even from the *C. purpuratum*, Lindl. Bot. Reg. t. 1991, the only distinguishing character being in the "purple hairy shining warts which border the upper edge of the petals" in our present plant. But assuredly such warts, in a greater or less degree do exist on those of *C. venustum*, though they are obsolete in *C. purpuratum*. Probably the different localities were considered to strengthen the idea of specific difference, the *C. venustum* inhabiting the north of India, about Nepal, and the two others the Malayan islands: but the mountains of tropical India are now well known to produce similar species to those of the less elevated regions of the north, and such appears to be the case in the present instance. The colour of the lip in *C. barbatum* is different from that of *C. venustum*; but in two beautiful flowering specimens, sent to us by our friend Mr. Veitch, from Java (from which our figure was taken), one exhibited the dark

purple of *C. barbatum*, the other the pale colour of *C. venustum*. The leaves, in like manner, vary in intensity of colour and marking, and in the absence or presence of brown dots on the under side of the foliage.

The *C. venustum* having been fully described at Tab. 2129 of the present work, and familiar to all cultivators of *Orchideæ*, and the differences such as they are, herepointed out, we need not enter into more lengthy observations on the present occasion.

Fig. 1. Upper view of the column with anthers. 2. Lower view of the same :— *magnified.*

Fitch, del et lith

Reeve, imp.

Tab. 4235.

MAXILLARIA Warreana.

Mr. Warre's Maxillaria.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4228.)

Maxillaria *Warreana*; pseudo-bulbis oblongis attenuatis articulatis, foliis sub-4 lanceolatis basi longe attenuatis nervosis plicatis, scapo radicali erecto elongato vaginato multifloro, floribus subglobosis sepalis petalisque subæqualibus rotundato-ovatis concavis acutis, labello obovato basi cucullato intus medio jugis tribus elevatis carnosis, apice dilatata sublobata supra plurilamellata, columna inclusa.

Maxillaria Warreana. *Lodd. Bot. Cab. t.* 2384. *Lindl. Gen. et Sp. Orchid. p.* 148.

This is a very distinct and very lovely species of *Maxillaria*, first detected, as it would appear, in Brazil, at least it was, according to Mr. Loddiges, cultivated there by Mr. Warre, after whom it is named. Our plants were sent from St. Martha, New Grenada, by our collector, Mr. Purdie, and flowered in the Royal Gardens, and at Syon, in August, 1845. The delicate and almost snowy or yellow white of the ground of the flowers is beautifully contrasted with the rich purple of the inside of the lip.

Descr. *Pseudo-bulbs*, in age, four to five inches long, oblong, terete, attenuated, jointed, the articulations partly sheathed by the withered bases of the leaves. In the flowering state the *leaves* do not spring from any apparent pseudo-bulbs, but directly from a *cormus* or short *rootstock*; these leaves are long, much attenuated at the base, and gradually expand into a lanceolate acuminated, striated and plaited blade. *Scape* arising from the same rootstock at the outer base of the leaves, one and a half or two feet high, rounded, jointed, purple, sheathed with close-pressed scales or *bracteas*. *Racemes* of eight, or ten, or more *flowers*, which are drooping and subglobose, rather large. *Sepals* and *petals* nearly similar (the latter rather smaller) roundish ovate, very concave, acute, white tinged externally with yellow, the two lateral sepals below ending in a kind of obtuse spur.

Lip about equal in length with the perianth, white, beautifully painted within with yellow and deep purple, obovate, the lower half concave, subcucullate, within having three elevated fleshy ridges, the upper half, or apex, spreading, obscurely lobed and waved, the upper surface with several, membranous, crisped lamellæ. *Column* rather short, semi-cylindrical, included.

Fig. 1. Column and anther. 2. Lip :—*slightly magnified.*

3
4

Tab. 4236.

ÆSCHINANTHUS PURPURASCENS.

Purplish-green Æschinanthus.

Nat. Ord. Didymocarpeæ.—Didynamia Angiospermia.

Gen. Char. *Calyx* ventricoso-tubulosus apice 5-lobus, 3-fidus vel 3-partitus, lobis æqualibus. *Corolla* tubulosa incurva limbo obliquo subinæqualiter 5-fido subbilabiato. *Stamina* 4 antherifera didynama sæpe exserta cum rudimento quinti. *Loculi antherarum* paralleli. *Ovarium* annulo cyathiformi basi cinctum. *Stylus* filiformis. *Stigma* integrum depresso-concavum. *Capsula* siliquæformis elongata acuminata valvis duabus strictis, placentis bifidis bilamellatis margine revolutis quasi 4-locularis. *Semina* plurima minuta oblonga pendula utrinque setis longis paucis aut solitariis appendiculata.—Suffrutices *indici pseudo-parasitici scandentes sæpius radicantes.* Caules *teretes geniculati glabri.* Folia *opposita petiolata carnosa integerrima sæpius glabra.* Pediculi *terminales aut axillares unibi- rarius pauciflori.* Cor. *rubræ* (*rarius virides*). *De Cand.*

Æschinanthus *purpurascens*; foliis oblongo-lanceolatis acuminatis sinuato-dentatis obscure venosis glabris, floribus fasciculatis axillaribus, bracteis minutis subulatis, calycis tubo brevi laciniis subulatis corollam subæquantibus, corollæ limbo fimbriato, staminibus longe exsertis.

Æschinanthus purpurascens. *Hassk. Cat. Hort. Bot. Bogor. ed.* 2. *p.* 154.

Æschinanthus albida. *Alph. De Cand. Prodr. v.* 9. *p.* 262.

Bignonia albida. *Bl. Cat. Hort. Bot. Bogor. ed.* 1. *p.* 87.

Trichosporum albidum. *Nees, in Bot. Zeit.* 1825, *p.* 144.

Lysionotus albidus. *Bl. Bjdr. p.* 765.

This little-known plant has been unfortunate in the number of generic names it has received, and scarcely less so in the inappropriateness of its specific names. In the first edition of the 'Catalogue Plant. Horti Botanici Bogoriensis' it received the name of "*albida*," of Blume; in the second edition, the author (Hasskarl) observes, "nomen incaute creatum, folia subtus in nervo atropurpurea et præterea purpureo-maculata, cæterum pallide viridia nec (viva) albida"; and then he gives the scarcely more happy one of "*purpurascens*". It is a species readily distinguished from the rest of the genus by its sinuato-toothed leaves, by the dark purple-brown prominent mid-rib on the under side, by the long, purple, subulate laciniæ of the calyx,

the green corolla, having its limb spotted with dark purple or blood-colour, and its ciliated or fringed margin. It has recently been introduced to our own stoves by Mr. Veitch, through his collector, Mr. Thomas Lobb, from Java. It inhabits the mountains. It is a free and abundant flowerer, and blossoms in March, and loves heat and moisture.

Descr. Straggling *shrub*, everywhere glabrous, branched. *Branches* rounded, greenish. *Leaves* opposite, distichous, on short thick petioles, oblong-lanceolate, thick and fleshy, almost coriaceous, obtuse at the base, acuminated at the point, the margin sinuato-dentate, the colour dark green above, paler below, where it is sometimes tinged (but not spotted) with purple, and having a very prominent dark purple costa. *Pedicels* short, clustered, axillary, single-flowered, with very minute subulate bracteas at the base. *Calyx* with the tube, short, green, the segments very long, subulate, dark purple, as long as the tube of the corolla. *Corolla* green, the tube infundibuliform, a little curved, the mouth very oblique, the limb of five rounded, spreading segments, spotted with blood-colour and ciliated. *Stamens* four, didynamous (with a fifth small abortive one), much exserted, curved. *Filaments* hairy above. *Anthers* oblong. *Ovary* seated on a fleshy disk, linear, glabrous. *Style* long, hairy. *Stigma* depressed, obscurely two-lobed.

Fig. 1. Flower. 2. Corolla laid open. 3. Pistil. 4. Ovary cut through transversely :—*magnified*.

1
2

Tab. 4237.

CIRRHOPETALUM Thouarsii.

Thouars' Cirrhopetalum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. Sepala ringentia, lateralibus acuminatis, valde obliquis basi productæ columnæ adnatis, supremo multo longioribus. *Petala* nana apiculata. *Labellum* integrum, cum basi columnæ articulatum. *Columna* minima basi longe producta, apice cornubus duobus petaloideis. *Anthera* bilocularis. *Pollinia* 4, quorum 2 interiora multo minora, lamelliformia.—Herbæ *epiphytæ*, rhizomate *repente*, pseudo-bulbos *monophyllos gerente*. Folia *coriacea avenia*. Flores ***dense racemosi, nunc radiati in apice scapi radicalis.*** ***Lindl.***

Cirrhopetalum *Thouarsii*; petalis ciliatis sepaloque supremo aristatis, foliis oblongis obtusis emarginatis scapo brevioribus. *Lindl.*

Cirrhopetalum Thouarsii. *Lindl. Gen. et Sp. Orchid. p.* 58. *Bot. Reg.* 1838, *t.* 11.

Epidendrum umbellatum. *Forst. Prodr. p.* 321 *(not Sw.)*.

Bulbophyllum longiflorum. *Thouars, Orch. Afr. t.* 98.

Zygoglossum umbellatum. *Reinw. in Bot. Zeit.* 1825. *v.* 2. *p.* 4.

Cymbidium umbellatum. *Spreng. Syst. Veget. v.* 3. *p.* 723.

For the illustration of this exceedingly curious Orchideous plant, and for the above synonymes, we are indebted to Dr. Lindley, who observes that the species inhabits the Society Islands, Java, the Isles of France and Madagascar, and Manilla. It requires a little dissection, and the removal of the long lateral sepals, to distinguish the beauty and the elegant marking of its flower. The generic name was given by Dr. Lindley, from the prevailing tawny colour of the blossoms, as exhibited chiefly in the sepals: κιρρος, *tawny*, and πεταλον. The plant requires heat and moisture to bring it to perfection, and it then seems to flower at various seasons of the year. Our figure was made at the Royal Gardens, in December, 1845.

Descr. *Rhizoma* creeping and rooting, bearing, at distant intervals, small ovate, angled, dark green, smooth *pseudo-bulbs*, with a few long bristly scales at their base, terminated at the apex by a solitary, oblong, subpetiolated coriaceous, recurved *leaf*, jointed upon the pseudo-bulb. *Scape* radical, slender, erect,

of few joints, and sheathed with brown scales at the joints. *Flowers* in a one-sided *umbel*, radiating, pedicellate; *pedicels* slender, spreading, with a subulate bractea at the base of each. *Sepals* connivent, very unequal; superior ones ovate, cuspidate, concave, straight, tawny, spotted on both sides; *lateral sepals* very long, lanceolate, with a twist at the base, tawny without, yellow dotted with red-brown within. *Petals* ovato-lanceolate, cuspidate, ciliated, yellow with red dots. *Lip* oblong, reflexed, entire, obtuse, fleshy, jointed on the produced base of the column. *Column* short, with two cuspidate serrated points, one on each side the hemispherical anther. *Pollen-mass* in two unequal pairs.

Fig. 1. Flower with much of the lateral sepals removed. 2. Pollen-masses:—*magnified.*

Tab. 4238.

CALLIANDRA Harrisii.

Mr. Harris' Calliandra.

Nat. Ord. Leguminosæ.—Monadelphia Polyandria.

Gen. Char. Flores plerique hermaphroditi. *Calyx* campanulatus 2-dentatus v. rarius 5-fidus, sæpius striatus. *Corolla* infundibuliformi-campanulata, rarius subtubulosa, laciniis striatis v. tenuiter membranaceis. *Stamina* indefinita sæpius numerosa corolla pluries longiora, basi in tubum coalita et corollæ sæpius plus minus adnata. *Legumen* lineare, rectum v. vix falcatum, compressum, in valvulas 2 lignosas coriaceas v. submembranaceas marginibus valde incrassatis ab apice ad basin elastice dehiscens, intus uniloculare epulposum. *Seminum funiculus* sæpius brevis.—Frutices *v.* arbores *parvæ, Americæ calidioris incolæ, sæpius inermes.* Folia *bipinnata, petiolo rachique fere in omnibus eglandulosis.* Stipulæ *in ramulis floriferis v. ad basin pedunculorum sæpe persistentes, subimbricatæ, foliaceæ, membranaceæ v. induratæ, in ramulis vegetioribus nonnunquam deciduæ, rarius postice in spinam ut primum reflexam mox patentem v. surrectam productæ.* Capitula *florum globosa, pedunculata v. rarius sessilia, in axillis foliorum superiorum v. in racemo terminali solitaria gemina v. rarius plura, staminibus (ultrapollicaribus) purpureis v. albis, comosa speciosa.* Flores *centrales sæpius quam in* Abizzia *difformes,* corolla *elongato-tubulosa, staminum tubo longe exserto. Benth.*

Calliandra (§ Macrophyllæ) *Harrisii*; ramulis puberulis, stipulis parvis falcatis, pinnis unijugis, foliolis sesquijugis oblique obovato-falcatis utrinque puberulis uninerviis reticulato-venosis, pedunculis axillaribus fasciculatis villosis, calycis dentibus glanduloso-puberulis, corolla infundibuliformi calyce triplo longiore. ***Benth.***

Calliandra Harrisii. *Benth. in Hook. Lond. Journ. Bot. v.* 3. *p.* 95.
Inga Harrisii. *Lindl. Bot. Reg.* 1839, *t.* 41.

A very handsome stove plant, of straggling habit, but if supported by sticks, easily kept in good form, and highly ornamental, with its copious, rather large leaves, and its very handsome crested tufts of flowers, consisting, indeed, almost wholly of stamens, but those stamens so long, so numerous, and of so bright a red, as to be highly ornamental. The species is a native of Mexico; it is of easy cultivation, and easily increased by cuttings. It was introduced to our gardens by Thos. Harris, Esq., of Kingsbury, whose name it bears. As a genus, *Calliandra* (from κάλλος, *beauty*, and ανήρ,δρὸς, the *stamen*, in allusion to one of its most striking characters, the *beauty* of the stamens)

is dismembered very judiciously by Mr. Bentham, from the overloaded genus, *Inga*, and includes such as, altogether natives of the American continent, resemble *Inga* in the flowers, and *Acacia* in the fruit. Sixty species are described by Mr. Bentham, l. c.

Descr. A straggling *shrub*, three to four feet high, with spreading zigzag *branches*, of which the younger ones are downy. *Leaves* bipinnate, primary pinnæ of one pair, and each pinna bearing three, obovate, oblique, rather large *leaflets*; of these three, two are opposite and terminal, and one solitary and lateral. *Rachis* hairy. *Stipules* subulate, hooked. *Peduncles* short, axillary, solitary, having a single head of *flowers*, very small and compact in bud, but soon expanding into very beautiful crested tufts, of which the small yellow calyx and corolla are very much concealed by the copious long stamens; each flower giving out a large pencil, as it were, of scarlet hairs, tipped with the anthers, which latter are at first also red, then yellow from the copious pollen. *Calyx* urceolate, downy and slightly glandular, its teeth obtuse. *Corolla* funnel-shaped, three times as long as the calyx; the teeth ovate. *Stamens* an inch and a half long, monadelphous at the base. *Pistil*, as far as I have observed, wanting.

Fig. 1. Calyx and corolla with the base of the filaments:—*magnified*.

Tab. 4239.

THEOPHRASTA Jussiæi.

Jussieu's Theophrasta.

Nat. Ord. Theophrastaceæ, *De Cand.*—Pentandria Monogynia.

Gen. Char. THEOPHRASTA, *Juss.* (*not Linn. nor Phum.*).—*Calyx* campanulatus, profunde 5-fidus : lobis ovatis, erectis, obtusiusculis, margine membranaceis, subciliatis, nervis centro parallelis, æstivatione imbricatis, uno exteriore, uno interiore, 3 intermediis. *Corolla* cylindraceo-campanulata, apice 5-loba, calyce quadruplo longior : lobis obtusis, imbricatis, æstivatione calycis? lobo saltem uno exteriore. *Appendices* 5, ad basin corollæ, carnosæ, truncatæ, latæ, cum lobis corollæ alternantes. Pars corollæ infra appendices parte superiore quintuplo brevior. *Stamina* 5, corolla quadruplo breviora, ejus lobis opposita, ima basi tubi inserta, libera. *Filamenta* lanceolata. *Antheræ* erectæ, filamentis sublongiores latioresque, extrorsæ, apice connectivo elongato cuspidatæ, lanceolatæ, loculis longitudinaliter dehiscentibus. *Pollen* (siccum) late ellipsoideum, areolatum læve. *Pistillum* calycem longitudine subæquans. *Ovarium* ovoideum. *Stylus* brevis. *Stigma* capitatum obscure bilobatum? *Ovula* plurima adscendentia, placentæ centrali stipitatæ globosæ inserta. *Fructus* globosus, crustaceo-carnosus, unilocularis. *Semina* pauca (3–6?) ovoidea subcuneata, apice stipitis placentæ glomerata, extremitate quadam foveolata? testa mucilaginea? magnitudine pomi minoris. *Albumen* corneum. *Embryo* paulo excentricus, rectus. *Radicula* cylindrica extremitatem foveolatam spectante. *Cotyledones* ovatæ planæ, radicula latiores.—Arbuscula *Americana, trunco apice comoso : foliis confertis subverticillatis, lineari-oblongis, obtusis cartilagineis sesquipedalibus, 3 poll. latis, sessilibus, grosse spinoso-dentatis, venis creberrimis subpellucidis parallelis punctis rotundis minutis centro quasi perforatis utrinque sitis : spinis axillaribus minimis, caducis : racemis terminalibus 5–6-floris corymbiformibus pubescentibus ; bracteis linearibus pedicello elongato triplo brevioribus : bracteolis solitariis supra medium pedicelli : floribus albis, submutantibus : fructu luteo. DC.*

Theophrasta Jussiæi. *Lindl. Coll. Bot. t.* 26. *De Cand. Prodr. v.* 8. *p.* 146.
Theophrasta Henrici. *Hamilt. Prodr. Ind. Occ. p.* 27.
Theophrasta Americana. *Sw. Obs. p.* 58 *(non Linn.).*

A stately unbranched plant, with something of a Palm-like habit, the upper part being comose or crowned with a tuft of leaves, and bearing in the centre of those leaves a pretty large cluster of good-sized flowers. Few have had the opportunity of studying this, save from dried specimens, yet it has occupied the attention of some of our ablest botanists, and is considered worthy (by Don and De Candolle), in conjunction with *Clarija*

and *Jacquinia* and two or three less known genera, to form a distinct order, *Theophrastaceæ*; allied on the one hand to *Myrsinaceæ*, on the other to *Sapotaceæ*. Our present species, and the only known one of the recognized, is a native of St. Domingo, and of course requires the heat of a stove to bring its blossoms to perfection. The fruit, so far as I am aware, does not ripen in our collections, but is well represented, from dried specimens, by Dr. Lindley, in the figure above quoted.

Desc. Our *Plant* of this, about six feet high, presents an unbranched woody *stem*, erect, rounded, clothed in the upper part between and below the leaves, with soft, subulate, blackish spines. *Leaves* from the apex of the stem, subverticillate, but in such a way that three are placed close together on the stem, sessile, oblong-lanceolate, 8–10 inches or a foot long, obtuse, coriaceous, penninerved, glabrous, waved at the margin, and bordered with very unequal spinous teeth. *Flowers* in corymbose *racemes*, terminal, collected into a head and sunk, as it were, in the hollow of the terminal mass of leaves. Each flower is dirty white, nearly an inch long. *Calyx* campanulate, with five erect ovate subciliated lobes. *Corolla* broadly cylindraceo-campanulate, with five spreading rounded lobes. Near the base of the corolla within are five arched *scales*, with a little spine at the back, these alternate with the lobes of the corolla: and alternating with these are five stamens inserted at the very base of the corolla. *Filaments* subulate, curved. *Anthers* oblong, two-celled, with the *connectivum* extended beyond the point into an oblong appendage. *Ovary* globose, containing several *ovules* on a globose central *placenta*. *Style* short. *Stigma* capitate.

Fig. 1. Calyx and pistil. 2. Corolla, laid open. 3. Portion of the base of the corolla with the stamens removed. 4. Stamen. 5. Ovary, cut through transversely.—*magnified.*

42.40

Fitch. de et lith.

Reeve, imp

Tab. 4240.

GESNERIA bulbosa; *Var.* lateritia.

Tuberous-rooted Gesneria; brick-coloured variety.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4217.)

Gesneria *bulbosa*; herbacea tota pubescenti-villosa, foliis oppositis petiolatis ovato-ellipticis basi cordatis serrato-crenatis, racemis cymosis multifloris ex axillis foliorum supremorum, pedicellis bracteatis, calycis lobis acutis, corollæ (amplæ) tubo cylindraceo basi 5-gibboso superne sensim ampliato, ore valde oblique superne longissime producto.

Gesneria bulbosa. *Gawler, Bot. Reg. t.* 343. *Hook. Bot. Mag. t.* 3886. *De Cand. Prodr. v.* 7. *p.* 529.

β. racemis cernuis, floribus lateritiis. *Tab. nostr.* 4240.

I much fear that the *Gesneria faucialis*, Lindl., (Bot. Mag. t. 3659.), and the *G. Suttoni*, Lindl., (*G. bulbosa*, nob. in Bot. Mag. t. 3041), should be united with *G. bulbosa*, which is evidently a highly variable plant, and one that has apparently an extensive geographical range, extending from Brazil to New Grenada. In the latter country, about Santa Martha, the present singular variety of this species, for such I take it to be, was detected and sent to Kew by our collector Mr. Purdie. It first produced its blossoms at Syon House, under the skilful management of Mr. Carton. At first sight it is distinguished from the true *G. bulbosa* by its pale brick-coloured flowers, and by the drooping racemes. The arrangement of these flowers, in the raceme, on simple pedicels, would rather induce me to refer this to *G. faucialis* than to *bulbosa*, could I persuade myself they are really distinct; but, as far as I can find, the leaves and flowers are alike in both, and the only difference discernible is in the large and more divided raceme or panicle of the true *G. bulbosa*.

The species loves heat and moisture, and may be increased both by tubers and cuttings.

Tab. 4241.

PITCAIRNIA UNDULATIFOLIA

Broad waved-leaved Pitcairnia.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. *Perigonii* semisuperi sexpartiti *laciniæ* exteriores calycinæ, basi inter se connatæ, lanceolatæ, acuminatæ, carinatæ, erectæ, interiores petaloideæ, longiores, inferne in tubum approximatæ, apice galeatim incumbentes v. æqualiter patentes, basi intus squamosa v. rarius nudæ. *Stamina* 6, annulo perigyno inserta; *filamenta* libera, subulata, *antheræ* lineares, basi sagittatæ. *Ovarium* seminiferum triloculare. *Ovula* in loculorum angulo centrali plurima, adscendentia, anatropa. *Stylus* filiformis, *stigmata* 3 linearia, spiraliter contorta. *Capsula* semisupera, ovato-pyramidata, trilocularis, apice septicido-trivalvis, valvis introrsum demum fissis. *Semina* plurima, adscendentia, teretiuscula, *testa* fusca scrobiculata, *chalaza* late discolore umbilicum setiformem chalazæ apicali in acumen longe productæ jungente. *Embryo* minimus rectus in basi *albuminis* dense farinosi, extremitate radiculari *umbilicum* attingente, infera.—Herbæ *Americanæ tropicæ, foliis linearibus v. ligulatis sæpe spinoso-dentatis, caule erecto, simplici, floribus racemosis, bracteatis.* *Endl.*

Pitcairnia *undulatifolia*; foliis lato-ensiformibus acuminatissimis membranaceis striatis inermibus glabris hic illic margine undulatis, basi vaginantibus distiche insertis, pedunculo breviusculo vaginato, bracteis lato-lanceolatis convolutis purpuraceis coloratis, spica simplici strobiliformi, bracteis unifloris ovato-lanceolatis subconvolutis glabris, calyce bractea breviore, petalis (albis) longissime exsertis.

Pitcairnia undulatifolia. *Hortul.*

A native, probably, of Brazil, but of the history of which we know nothing, save that it was sent to the Royal Gardens of Kew from Liverpool, by our obliging friend Mr. Shepherd, under the name here adopted. It is a very showy plant, and no stove collection should be without it. The leaves are handsome, and of a light green, the lower bracteas are furfuraceous below, red tipped with green, and the long, protruded corollas are quite white. It flowers in May and easily bears parting at the root.

Desc. *Plant* about a foot and a half high to the top of the spike. *Stem* rounded, sheathed in a dichotomous manner with the bases of the leaves. *Leaves* long-lanceolate or reniform, thin, membranaceous, striated, entire, glabrous, very much acumi-

nated, the margin sometimes a little waved, especially near the base, everywhere unarmed. The *stem* runs up into a bracteated flower-disk: *bracteas* sheathing, long, acuminated, red and furfuraceous below, green and glabrous towards the apex. *Spike* oblong, strobiliform. Its *bracteas* large, scarlet, imbricated, ovate, acute, each sheathing the base of a flower. *Calyx* almost entirely inferior, conical, elongated, of three imbricating coloured lanceolate convolute pieces or sepals, an inch or more long, but quite concealed by the bractea of the spike. *Corolla* very long, of three white almost linear *petals*, with no scale at the base within. *Stamens* as long as the petals. *Style* longer than the stamens. *Stigma* spirally twisted.

Fig. 1. Pistil. 2. Transverse section of the ovary:—*magnified*.

R. ove, imp.

Tab. 4242.

GESNERIA elliptica; Var. lutea.

Elliptic-leaved Gesneria; yellow variety.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4217.)

Gesneria *elliptica*; pubescenti-velutina, foliis ellipticis rugosis crenato-serratis, inferioribus petiolatis superioribus sensim minoribus sessilibus, pedunculis terminalibus racemosis axillaribusque solitariis, calycis lobis acutis, corollæ tubo basi 5-gibboso superne sensim ampliato, ore oblique bilabiato, labio superiore minore recto bilobo, inferiore 3-lobo dependente lobis rotundatis, glandulis hypogynis 4 quorum unico magno reliquis parvis linearibus, stylo subincluso.

α. corollis rubris vel lateritiis.

β. corollis flavis. *Tab. nostr.* 4242.

We have here the pleasure of figuring another *Gesneria*, one of the results of Mr. Purdie's mission to the mountains of St. Martha, New Grenada. The flowers of this species, however, exhibit much variation in hue, and we have chosen the most unusual of these colours in the genus, namely, the yellow. Others are brick-coloured, and some bright red. All are graceful in their growth and handsome in their blossoms. As a species it will rank near *G. rutila*, Lindl. Bot. Reg. t. 1158, and especially that variety of it afterwards given at t. 1279 of the same work and called var. *atrosanguinea*; but the shape of the upper part of the corolla and the relative size of the lips afford distinguishing characters. It flowers in a warm moist stove in May, and through most of the summer months.

Desc. *Stem* herbaceous, nearly terete, clothed, as is almost every part of the plant, with a short and soft hair-like pubescence. *Leaves* opposite, elliptical, obtuse, crenato-serrate, somewhat cuneate at the base; the lower ones petiolate, upper ones sessile and gradually passing into small leaf-like bracteas, situated among the terminal flowers. *Flowers* forming a handsome raceme at the extremity of the stem or branches, *pedicels* opposite, bracteated, but in the lower pair or pairs the bracteas are so

large and foliaceous, that those pedicels may be said to be axillary. *Calyx* ample, hemispherical, 5-cleft, the segments broad, acute, spreading in consequence of the inflated base of the corolla. *Corolla*, in the present variety, yellow; the *tube* gradually widening upwards, but again contracting at the oblique mouth; the base swelling into five inflated lobes: the *limb* two-lipped, upper lip the smaller, two-lobed, standing forward; the lower one hanging down, cut into three broad rounded lobes. *Stamens* scarcely exserted. *Filaments* red. *Anthers* purple. *Style* a little protruded beyond the mouth of the corolla.

Fitch, del et lith.

Reeve, imp

Tab. 4243.

LEIANTHUS umbellatus.

Umbellate Leianthus.

Nat. Ord. Gentianeæ.—Pentandria Monogynia.

Gen. Char. *Calyx* 5-fidus, 5-carinatus vel 5-alatus, lobis valvaribus planiusculis acuminatis, carinis alisve dorsalibus. *Corolla* infundibuliformis, nuda, tubi fundo tenui supra germen in faucem longiorem cum limbo 5-partito confluentem æqualem ampliato. *Stamina* 5, supra fundum corollæ inserta, filamentis elongatis inæqualibus. *Antheræ* incumbentes, immutatæ neque apiculatæ. *Ovarium* annulo basilari destitutum, valvulis introflexis semibiloculare, ovalis ipsarum margini insertis. *Stylus* distinctus, persistens, *stigmate* indiviso capitulato. *Capsula* bivalvis, septicida, semi-bilocularis, placentis margini valvarum insertis. *Semina* placentis immersa.—Herbæ *vel* frutices *Jamaicæ et Americæ centralis, cymis terminalibus, floribus albidis vel flavis rarius cyaneis, gracilibus.* *DC.*

Leianthus *umbellatus*; fruticosus robustus, foliis obovato-lanceolatis acuminatis petiolatis, petiolis basi quasi stipulatim connatis, pedunculis axillaribus compressis monocephalis, umbellis multifloris involucratis, calyce exalato, staminibus **longissime exsertis stylum subæquantibus.**

Leianthus umbellatus. *Griseb. Gen. et Sp. Gent. p.*189. *De Cand. Prodr. v.* 9. *p.* 83. *Hook. Ic. Plant. t.* 687, 688 (stamens not fully developed).

Lisianthus umbellatus, *Sw. Prodr. p.* 40. *Fl. Ind. Occ. v.* 1. *p.* 350. *Spreng. Syst. Veget.* 1. *p.* 585.

A rare and little known species, handsome in its habit and in its ample foliage, and singular large involucrated umbels of flowers, but these last are wanting in colour to render the plant a very striking one. It is a native of Jamaica, and seems to have been unnoticed by any one till my excellent friend Dr. Macfadyen transmitted dried specimens some years ago, and more recently (in 1843), our collector, Mr. Purdie, has sent both specimens and seeds to the Royal Gardens of Kew. The latter were reared and produced fine flowering plants. It is a mountain plant, which Swartz gathered in the Parish of St. James, and Mr. Purdie on "the summit of the Dolphin, Hanover," where this noble species attains a height of twenty feet. It flowers in May, and succeeds best in a hot moist stove heat.

Desc. An erect Shrub, from three to twenty feet in height. *Stems* and *branches* rounded, glabrous as is every part of the

plant. *Leaves* opposite and, indeed, united in pairs by the dilated and stipulated bases of the petioles which form a kind of cup around the branch; these leaves are often a foot or more long (including the petiole of about two inches), lanceolate but broader upwards, acuminated, in our living plant often spotted with blistery swellings, alternate at the base, penninerved. *Peduncle* often as long as the leaf, axillary, compressed or flattened and dilated upwards, when it bears an involucre of two large subovate and two smaller lanceolate leaves: within which, upon the convex disc of the petiole, is a dense capitate umbel of numerous greenish yellow. *Pedicels* short, bibracteate. *Calyx* very thin and membranous, diaphanous, cut half-way down into five narrow acuminated appressed segments. *Corolla* funnel-shaped, the limb campanulate, divided into five nearly equal erect slightly imbricating ovato-cordate acute segments. *Stamens* varying in length at different periods of the inflorescence, when fully developed twice or thrice longer than the corolla. *Filaments* glabrous: *anthers* oblong, sagittate; *style* rather longer than the stamens: *stigma* two-lobed. *Capsule* oblong, two-celled.

Fig. 1. Flower :—*natural size.* 2. Ovary :—*magnified.*

Tab. 4244.

DAVIESIA physodes.

Hatchet-leaved Daviesia.

Nat. Ord. Leguminosæ.—Decandria Monogynia.

Gen. Char. Calyx angulatus ebracteatus 5-dentatus interdum subbilabiatus. *Corolla* carina vexillo breviore. *Ovarium* pedicellatum dispermum. *Stylus* strictus. *Stigma* simplex. *Legumen* compressum angulatum elastice dehiscens at suturam infer. dilatatum, fere semitrapezoideum. *Strophiola* seminis postice integra.—Frutices *Australasici glabri, spinosi aut inermes.* Folia *simplicia aut nulla.* Pediculi *basi bracteolati axillares. DC.*

Daviesia *physodes*; glauca, ramis erectis sulcatis, foliis linearibus teretibus superioribus versus apicem præcipue verticaliter dilatatis securigeriformibus utrinque binervibus oblique mucronatis, calyce brevi campanulato, carina subrostrata alis longiore.

Daviesia physodes. *Cunn. in Don, Gard. Dict. v.* 2. *p.* 125. *Benth. in Hug. Enum. p.* 31. *Walp. Repert. v.* 1 *p.* 570. *Lehm. Plant. Preiss. v.* 1. *p.* 49.

A very singular species of the very pretty genus *Daviesia*, in habit, as Mr. Bentham well remarks, resembling *Genista Scorpius*; but why named *physodes* by Mr. Cunningham is not apparent; for (unless it be in the fruit, which is, however, not noticed by Mr. Cunningham) there is nothing inflated or bladdery about the plant. The whole is rigid and glaucous, the lower leaves often small and terete, the upper ones oblong and obliquely cuneate, so that the shape a good deal resembles a hatchet, more dilated at the upper angle, mucronated on the other and marked with two nerves on each side. The flowers are exceedingly handsome, variegated with several colours, orange, red, green and black, produced copiously on the branches, and they continue a long time in perfection; so that the plant is highly ornamental to the greenhouse in the months of April and May. It is a native of Western Australia. The precise locality where Mr. Cunningham discovered it is not recorded; but Mr. Drummond and Mr. Preiss have detected it in the Swan River settlement, and from seeds sent by the former of these two botanists, our plants were reared at the Royal Gardens of Kew.

Desc. A glaucous *shrub*, two to three or four feet high, with

an erect habit. *Branches* angled, and more or less compressed or furrowed. *Leaves* articulated upon the branches, rigid, the lower ones linear, terete, the upper ones vertically compressed, cuneate, with the upper edge towards the apex more dilated so as to be hatchet-shaped, on each side are two nerves and at the apex at the lower margin is a mucro. *Flowers* in short racemes from the axils of the leaves, so close as to form a leafy spike. *Calyx* short, obliquely campanulate, with very short teeth. *Vexillum* large, suborbiculari-cordate, orange-red at the back, below black, internally also orange-red with a dark green eye, which in decay changes to deep purple. *Wings* orange, shorter than the keel. *Keel* orange, with a subrostrate black acumen, pointing upwards. *Stamens* ten. *Ovary* and *style* glabrous.

Fig. 1. Leaf. 2. Flower. 3. Back view of the vexillum. 4. One of the wings. 5. Keel. 6. Flower with the petals removed. 7. Pistil:—*magnified.*

4745.

Fitch, del. et lith.

Tab. 4245.

TROPÆOLUM CRENATIFLORUM.

Notched-petaled Indian-Cress.

Nat. Ord. Tropæoleæ.—Octandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4097.)

Tropæolum *crenatiflorum*; glaberrimum, scandens, foliis peltatis semiorbiculatis 5-lobis, lobis obtusis v. retusis cum mucronulo, petalis calycem attenuato-calcaratum subsuperantibus, obovatis patentibus subæqualibus apicibus truncatis subbicrenatis, 2 superioribus sanguineo-lineatis.

This is another new Peruvian *Indian-Cress* introduced by Mr. Veitch, through his collector, Mr. W. Lobb, from Pillao and Chagula, Peru; and may be treated like the other well-known species of the same genus, that is as hardy during the summer months. Its nearest affinity is perhaps with *T. Lobbianum* (Bot. Mag. t. 4097), but the foliage, the colour of the flowers, the edge of the petals, and the relative length of those petals, as compared with the spur, at once distinguish it.

Descr. A long, straggling and climbing *plant*, glabrous in every part. *Leaves* alternate, petioled, generally small, semi-orbicular or nearly orbicular, with a broad truncate base, peltate, but the point of attachment of the *petiole* is nearer the base than the middle; five-lobed, the lobes rounded, very obtuse, or more generally retuse, with a very small soft mucro. *Peduncles* axillary, slender, single-flowered, flexuose or even cirrhose, longer than the petioles. *Calyx* deeply cleft into five, appressed, lanceolate, rather obtuse segments, at the base above extended into a rather alternated *spur*, suddenly ending in a narrow curved point or mucro, scarcely twice the length of the calyx: segments and spur yellow, tipped with green. *Petals* about twice as long as the segments of the calyx, obovate, retuse, nearly equal, the apex truncate or retuse with generally two notches and three obtuse teeth: all yellow, the two upper petals only with a few black purple streaks. *Stamens* eight, unequal, much shorter than the petals. *Style* shorter than the stamens.

Fitch, del et lith

Reeve imp

Tab. 4246.

FRIESIA PEDUNCULARIS.

Jointed-pedicelled Friesia.

Nat. Ord. Elæocarpeæ.—Dodecandria Monogynia.

Gen. Char. Calyx 5-partitus. *Pet.* 4 apice triloba. *Antheræ* 12 cordato-oblongæ, acuminatæ, apice dehiscentes. *Bacca* sicca substipitata, indehiscens, **2–4-sulca, 2–4-locularis, loculis dispermis.** *DC.*

Friesia *peduncularis.*

Friesia peduncularis. *De Cand. Prodr. v.* 1. *p.* 520. *Hook. in Journ. of Bot. p.* 250.

Elæocarpus peduncularis. *Labill. Nov. Holl. v.* 2. *p.* 15. *t.* 155.

An elegant shrub, from three to six feet high, with something of Myrtle-like habit, as seen in our gardens, and with copious, delicate, drooping flowers on pendent stalks. It is a native of Van Diemen's Land, and requires a cool frame or greenhouse for its successful cultivation. It is not improbable that near the coasts of the middle and south of England, this pretty plant may be found to brave the winters in the open air. Only one species is known: the *Friesia racemosa* of All. Cunningham (from New Zealand) being, as long ago correctly indicated by Vahl, a true *Elæocarpus*. The genus was named by De Candolle in compliment to Elias Fries, Professor of Botany in the University of Lund, and author of various Cryptogamic works, and other publications relating to the Flora of Sweden.

Descr. A small *shrub*, with erect, brown *branches*, green in the young state, everywhere, as well as the foliage, glabrous. *Leaves* opposite, rarely ternate, lanceolate, acuminated, coarsely serrated, penninerved; from the axil of the branches are leaf-buds; and from these leaf-buds the peduncles spring about an inch long, slender, pendent, one or two from each bud, articulated below the flower, at length, in fruit, erect. *Flowers* pendent, solitary on each peduncle. *Calyx* deeply four-partite, deciduous; *segments* ovate, acute, pale green. *Petals* four, erecto-patent, longer than the calyx, broadly obovate, three-lobed, white with

orange spots at the base, and two orange dots in the sinuses of the lobes. In the centre of the flower is a large almost globose torus or fleshy disc, bearing the petals and stamens, and in which the ovary is partly immersed. *Stamens* twelve, hairy. *Filaments* subulate, the upper much incurved, and bearing the oblong *anther*, a little cordate at the base, acute at the point and there opening with two oval pores. *Ovary* small, ovate. *Style* short, but a little longer than the stamens. *Stigma* obtuse, obscurely lobed.

Fig. 1. Flower. 2. Petal. 3. Torus with stamens and pistil. 4. Single stamen. 5. Torus and Pistil:—all more or less *magnified*.

Tab. 4247.

COLLANIA Andinamarcana.

Andinamarc Collania.

Nat. Ord. Amaryllideæ.—Hexandria Monogynia.

Gen. Char. Caulis rigidus, erectus, apice curvatus. *Folia* rigida (?). *Germen* pendulum turbinatum, operculo ad basin styli tardius maxime amplificato. *Perianthium* sex-partitum, sepalis petalisque disparibus, sub-tubiforme inter se paribus; *filamenta* et stylus recti; *antheræ* basi affixæ; *pericarpium* parte majore operculosum (molle? pulpaceum? edule?). *Herb.*

Collania *Andinamarcana*; caule glabro folioso, foliis lanceolatis lato-lanceolatisve glaucis subtus pallidioribus pubescentibus, racemis umbellatis terminalibus pendulis basi involucratis, pedicellis basi foliosis, perianthio subcylindraceo, sepalis oblongo-ellipticis petalis spathulatis brevioribus omnibus rectis, ovario hemisphærico superne glanduloso, staminibus exsertis, stylo incluso.

Collania Andinamarcana. *Herb. Amaryll. p.* 105. *t.* 8. *f.* 1–3.

The original specimen of this beautiful plant was described by the Hon. and very Rev. Mr. Herbert, from a native sample in my Herbarium, gathered by Mr. Mathews on the lofty mountains of Andinamarca in Peru. Mr. Wm. Lobb collected seeds of this plant in Peru, and probably in the same or in a neighbouring locality, and these have succeeded so well as to produce the noble flowering specimen here represented in April of the present year (1846). Respecting this genus, it will be seen that I adopt Mr. Herbert's character, although the habit (climbing, not erect) is at variance with one of that gentleman's generic distinctions, and the fruit is imperfectly known. The present only differs from our native specimens in its more luxuriant growth, and, as a species, is remarkable for its leafy racemes. It was reared in a hot-bed, and then removed to a cool greenhouse. The open border would, in all probability suit this species best in the summer.

Descr. A tall straggling and, no doubt, on its native hills, a climbing *plant*, with rounded, glabrous, herbaceous *stems*, and alternate scattered *leaves*, three, four, or five inches long, lanceolate or oblongo-lanceolate, twisted as in its allies, striated, glaucous, paler and downy beneath. The decurved apex of the stem

bears a drooping *umbel* of racemes of flowers; the umbel involucrated with about four leaves, and each pedicel, which is long and slender, bearing a leafy bract at its base. *Flowers* pendent. *Sepals* three, oblong, straight, orange-red, tipped with black. *Petals* three, straight, spathulate, pale yellow, tipped with green, and that green streaked with brown: within, at the base, is a grooved triangular scale or nectary. *Stamens* a little longer than the petals. *Ovary* turbinate with a circle of *glands* just below the insertion of the perianth. *Style* shorter than the stamens. *Stigma* obtuse.

Fig. 1. Petal. 2. Pistil :—*natural size.*

1
2
3

Tab. 4248.

ASYSTASIA Coromandeliana.

Coromandel Asystasia.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx 5-partitus, æqualis. *Corolla* hypogyna, sub-infundibuliformis, limbi quinquefidi laciniis subæqualibus, postica concaviuscula. *Stamina* 4, corollæ tubo inserta, inclusa, didynama; *filamenta* basi per paria connata; *antheræ* biloculares, loculis angustis, parallelis, basi callosis v. appendiculatis. *Ovarium* biloculare, loculis biovulatis. *Stylus* simplex; *stigma* capitatum, bilobum v. bidentatum. *Capsula* unguiculata, tetragona, bilocularis, tetrasperma, loculicide bivalvis, valvis medio septiferis. *Semina* discoidea, retinaculis subtensa.—Herbæ *v.* fruticuli *debiles, in Asia tropica crescentes;* foliis *oppositis,* racemis *spiciformibus, secundis, axillaribus v. terminalibus,* bracteis *bracteolisque exiguis æqualibus. Endl.*

Asystasia *Coromandeliana*; caule ramoso ramis diffusis, foliis cordato-ovatis supra lineolato-asperis, racemis axillaribus elongatis secundis strictis, calycibus acuminatis.

Asystasia Coromandeliana. *Nees, in Wall. Pl. Asiat. Rar. v.* 3. *p.* 89.

Ruellia Coromandeliana. *Herb. Madras.—Wall. Cat. n.* 2399. *a. ex parte, et n.* 2401. *a. b. ex parte.*

Justicia Gangelica. *Linn. Amæn. Ac. v.* 4. *p.* 290. *excl. omn. syn.*

β. Ruellia secunda. *Wall. Cat. n.* 2401. *d.*

Ruellia intrusa. *Vahl, Symb. v.* 1. *p.* 45. *Willd. Sp. Pl. v.* 3. *p.* 367.

γ. Ruellia secunda. *Vahl, Symb. v.* 3. *p.* 84. *Spr. Syst. Veget. v.* 2. *p.* 824.

Ruellia obliqua. *Herb. Wight. Wall. Cat. n.* 2399. *d.*

A frequent plant in India, according to Dr. Wallich; and the wonder is that it has not before now been introduced into our collections. The Kew Gardens owe the possession of it to Mr. Henderson, of Pine Apple Place, Edgeware Road. It flourishes in stove-heat, and flowers throughout the autumn. The genus *Asystasia* (of the meaning of the word as applicable to the plants that bear it, I am ignorant) was founded by Blume on a Java species, and Nees has abstracted ten others from the old *Ruellia*, and among them the handsome *A. Neesiana*, figured in the '*Pl. Asiat. Rar.*' t. 83; and to which genus, I presume, may

be also referred the *Ruellia lilacina*,* Bot. Mag. t. 4147. The present one is perhaps the handsomest of the genus, from the large racemes of deep lilac flowers; Nees calls them blue, but he judges, perhaps, from the colour in dried specimens.

Descr. Somewhat shrubby, branched; *branches* zigzag, slightly downy as well as the leaves. *Leaves* opposite, ovato-cordate, soft, somewhat waved, pale beneath. *Petioles* shorter than the leaves, connate at the base. *Racemes* axillary, six- to ten-flowered. *Flowers* nearly sessile. *Calyx* of five, deep, lanceolato-subulate, erect segments, slightly hairy; at its base are small appressed *bracteas*. *Corolla* with the tube, long, infundibuliform, pale green, sprinkled with purple, bent at the contraction; limb deep lilac, spotted with darker dots, of five spreading, rounded, waved, unequal segments. *Stamens* four, didynamous, united at the base of the filaments, included. *Ovary* oblong, hairy, inserted in a cup-shaped *disc*; *style* inserted obliquely at the top of the germen, hairy at the base. *Stigma* two-lobed.

* Dr. Lindley has, by some strange error, quoted this under his *Ruellia lilacina* (Bot. Reg. 1846. t. 13), and criticised the figure: whereas it is quite clear that the *Ruellia lilacina* of Dr. Lindley, is our *Eranthemum montanum*, Bot. Mag. (1843), t. 4031, and has nothing to do with the original *R. lilacina*, Hook.

Fig. 1. Portion of corolla to show the stamens. 2. Calyx and Pistil. 3. Ovary and cup-shaped disc:—*magnified*.

Tab. 4249.

TORENIA Asiatica.

Large-flowered Torenia.

Nat. Ord. Scrophularineæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4229.)

Torenia *Asiatica*; diffusa glabra v. tenuiter hirtella scabrella, foliis petiolatis ovatis v. ovato-lanceolatis tenui-acuminatis, serrato-crenatis, calycibus elongatis basi acutis costis 5 subæqualibus v. 3 anguste alatis, corolla calyce plus duplo longiore, filamentorum anticorum appendicula subulata.

Torenia Asiatica. *Linn. Sp. Pl. p.* 862. *Spreng. Syst. Veget. v.* 2. *p.* 800. *Lam. Ill. t.* 523. *f.* 1. *Wight. Ic. Pl. Ind. Or. t.* 862. *Benth. in De Cand. Prodr. v.* 10. *p.* 410. *Wall. Cat. n.* 3953.

Torenia vagans. *Roxb. Fl. Ind. v.* 3. *p.* 96.

Torenia hians. *Roxb. l. c.*

It is not by any means easy for a painter to do justice to the rich purple-blue tinge of the flowers of this plant, which, with the size of the blossoms, the three dark purple blotches on the pale ground, together with the delicate yellow green of the rather copious foliage, renders this one of the most lovely plants that has lately been introduced to our stove-collections. It is an annual, and we are indebted for the seeds to W. Strachan, Esq., Twickenham, who received them from Curtallam. The plants blossomed through the summer of 1846, and as the cuttings strike freely, we find ourselves readily able to propagate the species should the parent plants fail to bear seeds. Even amidst the splendid display of vegetable productions exhibited at the June show of the Chiswick Gardens, this attracted no small degree of public attention. It seems to have a very extensive range in the East Indies, growing throughout Bengal, in Amboyna, Ceylon, Mergui, Chittagong, Sylhet, in the Madras Peninsula, and, Dr. Wight adds, it is widely diffused in alpine regions.

Descr. An annual, with quadrangular, pale green *stems*, flexuous, erect or diffuse, branched, the *branches* opposite. *Leaves* opposite, on short petioles, ovate, or ovato-lanceolate, much acuminate, coarsely serrated, obtuse, scarcely cordate at the base,

penninerved, glabrous, as is every part of our plant, but rough to the touch. *Peduncles* axillary, fasciculate, spreading, angled, single-flowered. *Calyx* ovato-acuminate, two-lipped, arched or decurved, with three wings which are decurved on the petiole. *Corolla* large, more than twice as long as the calyx; the tube dark purple, between campanulate and infundibuliform, with a spreading, nearly equal, four-lobed limb, of a delicate purple blue, pale, with a blotch on three of the lobes. Two longer *stamens* with a subulate *spur*. *Ovary* oblong. *Style* geniculated. *Stigma* two-lipped.

Fig. 1. Corolla laid open. 2. Pistil and winged apex of the peduncle:—*magnified.*

4250.

ALLOPLECTUS REPENS.

Creeping Alloplectus.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4216.)

Alloplectus *repens*; hic illic pubescens, suffruticosus, repens, foliis late ovatis grosse crenato-serratis subcarnosis brevi-petiolatis, pedunculis axillaribus solitariis unifloris petiolum longe superantibus, sepalis late ovatis acutis maculatis patentibus, corollæ parce pilosæ tubo infundibuliformi curvato, limbo 4-lobo, lobo superiore latiore bifido, reliquis ovatis patentibus.

A pretty Gesneriaceous plant, probably scandent upon the trunks of trees and rooting among the dead bark and moss. It is a stove plant, native of the damp woods in the ascent of the Sierra Nivada, St. Martha, and was thence sent to the Royal Gardens of Kew by our collector, Mr. Purdie. A comparison of this with the figure of *Alloplectus dichrous*, at Tab. 4216. will show that the essential characters of the two are the same as to genus. It flowers in February.

Descr. A small shrubby *plant*, with trailing *stems* and *branches*, and throwing out roots from between the pairs of leaves, so as to constitute a creeping stem. *Leaves* rather small, ovate, fleshy, coarsely serrated, hairy or glabrous. *Petiole* much shorter than the leaf. *Peduncle* shorter than the leaf, but longer than the petiole, axillary, single-flowered, dark purple, four-angular upwards. *Calyx* very large and loose, spreading and standing off, as it were, from the tube of the corolla, of five broadly ovate, acute, almost leafy segments, pale green blotched with purple. *Corolla* yellow tinged with red, twice as long as the calyx. *Tube* curved, funnel-shaped, swollen at the base; *limb* of four, spreading segments, of which the uppermost one is broad and bifid, the rest ovate and entire. *Stamens* four, didynamous (with a minute scale, the rudiment of a fifth), inserted near the base of the tube of the corolla, and each pair united by the base of the filaments.

Ovary glabrous, with a large fleshy *gland* on one side. *Style* curved upwards, downy. *Stigma* obscurely two-lobed.

Fig. 1. Portion of the Peduncle, Pistil, and hypogynous Gland. 2. Stamens :— *magnified.*

Fitch, del. et lith

Reeve, imp.

Tab. 4251.

TALAUMA Candollii.

De Candolle's Talauma.

Nat. Ord. Magnoliaceæ.—Polyandria Polygynia.

Gen. Char. Petala 9–15, ordine ternario serialia. *Stamina* numerosa, antheris anticis. *Ovaria* plura, coadunata, biovulata. *Fructus* coadunatione unicus, strobiliformis, lignosus, irregulariter dehiscens, *seminibus* 1–2 pendulis, in foveolis receptaculi centralis cylindraceo-elongati dehiscentia liberi. *Bl.*

Talauma *Candollii*; foliis oblongis utrinque acuminatis glabris, floribus 9–12 petalis exterioribus calycinis reliquis triente brevioribus. *Bl.*

Talauma Candollii. *Bl. in Batav. Verhand. p.* 147–149. *Bydr. v.* 1. *p.* 9. *Fl. Jav. Magnol. p.* 32. *t.* 9 *et* 12 A. *Lindl. Bot. Reg. t.* 1709.

Magnolia odoratissima. *Reinw. ined.*

Magnolia pumila. *Spreng. Syst. Veget. v.* 4. *p.* 2. *excl. syn.* (*fide Bl.*)

A very charming *shrub*, whether its foliage, or its flowers, or the fragrance of the blossoms, be considered. It is a native of Java, and therefore requires the heat of a stove, where it flowers annually about the month of June. When in perfection, the flowers are a cream-colour, and more or less connivent, but they soon become tawny and more expanded. The fruit of the natural size is given from Blume, at fig. 3.

Descr. A *shrub*, as cultivated in pots, four to five feet high; in its native country attaining a height of fifteen feet. *Leaves* alternate, from seven inches to a foot long, according to Blume, ovate-oblong, petiolate, acuminate at both extremities, entire, dark green above, paler beneath. *Peduncle* terminal, solitary, arched, single-flowered. *Flower* drooping, large, handsome, cream-coloured, fragrant. *Petals*, in our plant, nine, of which the three outer are more patent, and often slightly tinged with green, all of them oblong-ovate, acute. *Stamens* several, shorter than the pistils. *Anther-cells* forming a line at the inner edge of the acute *filament*. *Pistils* numerous: *ovary* linear-

oblong, tapering into a rather short *style* and terminated by the downy *stigma*.

Fig. 1. Stamens and pistil. 2. Pistils :—*magnified*. 3. Fruit :—*natural size*, from Blume.

4252.

Fitch, del et lith.

Reeve, imp.

Tab. 4252.

DATURA cornigera.

Horn-bearing Datura.

Nat. Ord. Solaneæ.—Pentandria Monogynia.

Gen. Char. Calyx tubulosus sæpe angulatus, apice 5-fidus v. hinc longitudinaliter fissus, supra basin peltatum persistentem circumscisse deciduus. *Corolla* hypogyna, infundibuliformis, limbo amplo, patente, plicato, 5–10-dentato. *Stamina* 5, corollæ tubo inserta, inclusa v. subexserta; *antheræ* longitudinaliter dehiscentes. *Ovarium* incomplete 4-loculare, dissepimento altero supra medium deliquescente, altero completo, medio utrinque placentifero, placentis porrectis multiovulatis. *Stylus* simplex. *Stigma* bilamellatum. *Capsula* ovata v. subglobosa, muricata v. aculeata, rarius lævis, semiquadrilocularis, incomplete ad septa 4-valvis. *Semina* plurima reniformia. *Embryo* intra albumen carnosum subperiphericus, arcuatus.—Herbæ *virosæ, annuæ v. perennes, nunc suffrutescentes v. arborescentes, in America et Asia tropica indigenæ, nec nunc per orbem diffusæ, aliæ in hortis cultæ*; foliis *alternis, petiolatis, oblongis v. ovatis, sæpius angulato-dentatis*; floribus *alaribus, solitariis, sæpius magnis, albis, violaceis v. coccineis. Endl.*

Datura *cornigera*; fruticosa pubescens, foliis integris sinuatis angulatisve, calyce cylindraceo 5-costato hinc infra apicem longe tereti-acuminatum reflexum longitudinaliter fissum, corollæ limbo patentissimo laciniis longissime acuminatis, filamentis inferne hirsutis, ovario glabro.

A very singular *Datura*, the one here figured, has appeared in our gardens lately (the origin of which I have failed to ascertain), sometimes under the name of *Brugmansia Knightii*, and sometimes under that of *Datura frutescens*; it is unrecorded, so far as I can discover, in any book to which I have access. With the habit of *Brugmansia*, it has not the calyx of that supposed genus, which seems to have been founded upon the well-known *Datura arborea* of our gardens, which has an inflated, tubular, obtuse calyx, cut at the mouth into several segments. But this is not the *D. arborea*, Linn., and of Feuillée, Chil. t. 46 (which is the authority for Linnæus' plant) nor of Ruiz and Pavon, t. 128, where the calyx is acute and deeply cleft on one side, but appressed to the corolla, in that respect differing from our plant, of which the calyx is similarly cleft on one side, but runs out into a long, subulate, spreading point. The Linnæan plant is the

"*Floripondio*" of the Spaniards, according to Father Feuillée, and Ruiz and Pavon, and is commonly cultivated both in Chili and Peru; but I possess native specimens from the Andes of El Equador, where, Colonel Hall remarks, "it flourishes on the table-lands to an elevation of 9,500 feet, and where the mean temperature is about 50°." The *Datura arborea* of our gardens, which I possess from the West Indies, where, however, it is probably only in a state of cultivation, must therefore have a new name, and I shall suggest that of *D. Gardneri* for it*, in compliment to Mr. Gardner, who was not only the first (as far as I know) to distinguish it from the western or Pacific species, but to determine its locality. In his Brazilian collection, my specimen (n. 560) of this plant, bears the remark, "Is this quite the same as the plant from the other side of the South American continent? This is a small tree, ten to twelve feet high, common on the banks of all the small rivers in the Organ Mountains. Tab. 1837." The plant, here figured, thus makes a third clearly defined white-flowered shrubby *Datura*. It merely requires the protection of a cool greenhouse. In the summer it succeeds best in the open air, and bears its fine blossoms at that period.

Descr. Our *plant* has a shrubby *stem*, about three feet high: the young branches, and almost every part of the plant, clothed with soft down. *Leaves* chiefly confined to the extremity of the branches, ovate, petiolate, acuminate, entire, or sinuate or angled. *Peduncles* axillary, single-flowerd, curved downward, so that the flower is drooping. *Calyx* spathaceous, long, narrow, cylindrical, split on one side for more than three quarters of its length with five prominent ribs, gradually tapering into an entire, long, subulate, patent, or recurved point, nearly as long as the tube of the corolla. *Corolla* large, funnel-shaped, white or cream-coloured, striated, the mouth spreading, 5-lobed, the lobes terminated by a long, subulate, spreading or recurved point. *Stamens* included, inserted at the top of the contracted part of the tube. *Filaments* subulate, hairy below. *Anthers* linear-oblong. *Germen* ovate, inserted in a fleshy disk. *Style* as long as the tube. *Stigma* capitate.

* D. *Gardneri*, Hook.; fruticosa glabriuscula, foliis integerrimis, calyce cylindraceo inflato apice obtuso inæqualiter 4–5-lobato, corollæ limbo patentissimo, laciniis tenui-acuminatis.

D. arborea. *Hort.* (*non Linn.*)

Hab. Banks of streams in the Organ Mountains, Brazil, abundant; *G. Gardner, Esq.*

Fig. 1. Portion of the tube of the corolla with a stamen. 2. Pistil:—*magnified.*

Tab. 4253.

HYDRANGEA Japonica; *var.* cærulea.

Japan Hydrangea; blue-flowered *var.*

Nat. Ord. Saxifragaceæ.—Trib. Hydrangeæ.—Decandria Trigynia.

Gen. Char. Flores sæpe difformes: alii fertiles hermaphroditi. *Calycis* tubus hemisphæricus decemcostatus subtruncatus ovario adnatus, limbus persistens 5-dentatus. *Petala* 5 regularia. *Stamina* 10. *Styli* 2 distincti. *Capsula* valvis introflexis bilocularis, calycinis dentibus stylisque coronata, supra planiuscula, foramina inter stylos dehiscens. *Semina* reticulata numerosa.—Frutices. Folia *opposita*. Flores *corymbosi albi, alii marginales pauciores steriles insigniti, calycis dentibus amplis corollatis petaliformibus, cæteris floris partibus abortivis. DC.*

Hydrangea *Japonica*; foliis oppositis breviter petiolatis e basi rotundata v. late cuneata ovato-oblongis acuminatis argute serrulatis glabris, cymæ planæ densæ, ramis pubescentibus, florum radiantium 4–6 pedunculis horizontaliter patentibus, sepalis plerumque 4 obovato-rhombeis acutiusculis serratis. *Sieb.*

Hydrangea Japonica. *Siebold, in Nov. Act. Leopold-Carol. v.* 14. *p.* 689. *Fl. Jap. p.* 106. *t.* 53. *De Cand. Prodr. v.* 4. *p.* 666. *Lindl. Bot. Reg.* 1841, *t.* 61.

β. *cærulea*; floribus cæruleis. Tab. Nostr. 4253.

For the introduction of this *Hydrangea* to European gardens, the botanic world is indebted to Dr. Siebold, who found it wild on the Island of Nipon, and abundantly cultivated by the Japanese. Two varieties are distinguished by that eminent Japanese traveller; "Benikaku," with rose-coloured flowers, and "Konkaku," with blue flowers. The former state of the plant is figured by Siebold and Dr. Lindley; our plants, the gifts of Mr. Knight, of the King's Road, Chelsea, and of Mr. Henderson, Pine Apple Nursery, Edgeware Road, happen to be the blue-flowered variety, and infinitely the handsomer of the two. Whether this variety is permanent, or, as many suspect, depending upon cultivation and the nature of the soil, and therefore liable to change again, I am unable to determine. It succeeds with the same treatment as the *Hydrangea hortensis*, and will probably soon become as common as the blue-flowered kind, and as great a favourite.

Descr. A *shrub*, three to four feet high, with the old branches

brown, the young terete and green, spotted with brown. *Leaves* opposite, ovate, acute, serrated, reticulate, cuneate and entire at the base and there tapering into a rather short thick footstalk. *Cyme* or compound *umbel* terminal, flat. Perfect *flowers* blue, tetra- or pentamerous. *Styles* three. Sterile *blossoms* about five, sometimes with abortive stamens, sometimes abortive pistils, and bearing three to five large petaloid, rhomboidal *sepals*, more or less toothed or angled, blue at the base, the rest white.

Fig. 1. Bud. 2. Expanded flower :—*magnified.*

1254.

Fitch, del. et lith.

Reeve, imp.

Tab. 4254.

DIASTEMA ochroleuca.

Pale yellow Diastema.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. *Calyx* basi breviter adnatus, limbo 5-partito. *Corollæ tubus* subæqualis, exsertus, declinatus; *limbus* patens, 5-fidus. *Stamina* 4, didynama, cum rudimento quinti; *antheræ* liberæ, subrotundæ. *Glandulæ* perigynæ 5. *Stylus* apice bilamellatus, lobis membranaceis intus stigmatosis, valvulis medio placentiferis. *Semina* numerosa. *Benth.*

Diastema *ochroleuca*; erecta herbacea pubescenti-hirsuta, foliis sublonge petiolatis ovatis acutis grosse serratis rugosis, paniculis terminalibus trichotomis subfoliosis, corollis glabris, glandulis hypogynis clavatis ovario longioribus.

A very pretty and ready-flowering Gesneriaceous plant, of which tubers were sent to the Royal Gardens of Kew by Mr. Purdie, from the Sierra Nivada of Santa Martha, New Grenada. It is evidently nearly allied to *Achimenes*, and apparently identical with Mr. Bentham's *Diastema*,* (διαστημα, *intervallum*; in allusion probably to the genus being intermediate between *Achimenes* and *Gesneria*), of which he remarks, "the free stamens of this plant indicate an affinity with *Achimenes*, and the form of the corolla is not unlike that of some of the small-flowered species of that genus, but the tube is neither gibbous nor spurred at the base, and the five equal perigynous glands are more prominent even than in *Gesneria* and *Gloxinia*. It is not improbable, however, that *A. erinoides*, DC., and *A. conifera*, DC., may be congeners of our plant." It flowered in August, 1846, and requires the heat of a stove.

Descr. *Stems* herbaceous, erect, branched, rather stout, very obtusely four-sided, slightly downy, more or less tinged with purple. *Leaves* opposite, hairy, especially above, on rather long, stout, succulent *petioles*, ovate, acute, wrinkled with veins, paler and less hairy beneath. *Panicles* terminal, trichotomously di-

* In 'Botany of the Voyage of the Sulphur,' p. 132.

vided, many-flowered, *pedicels* often leafy or bracteated at the base. *Calyx* more than half superior; the segments acute, spreading. *Corolla* straw-colour, about the size of that of *Achimenes coccinea*: the *tube* nearly straight, slightly dilated at the base, the mouth oblique, with five nearly equal, rounded, spreading *lobes*. *Stamens* four, quite included. *Ovary* ovate; *stigma* two-lipped. *Hypogynous glands* five, clavate, longer than the ovary.

Fig. 1. Corolla laid open. 2. Pistil or hypogynous glands:—*magnified*

Tab. 4255.

CLERODENDRON SINUATUM.

Sinuate-leaved Clerodendron

Nat. Ord. Verbenaceæ.—Didynamia Angiospermia.

Gen. Char. *Calyx* campanulatus, 5-fidus, v. 5-dentatus. *Corolla* tubo cylindraceo sæpius elongato; limbo 5-partito, laciniis æqualibus. *Stamina* 4, didynama, exserta, secunda. *Ovarium* 4-loculare, loculis monospermis. *Stigma* bifidum, acutum. *Bacca* tetrapyrena, calyce sæpius ampliato cincta.—Arbores *v.* frutices. Folia *opposita, simplicia, indivisa, nunc lobata, petiolorum basi persistenti.* Corymbi *terminales et axillares, trichotomi.* *Br.*

Clerodendron *sinuatum*; pubescens, ramis copiosis gracilibus, foliis elliptico-ovatis acuminatis sinuatis angulatisve basi subcordatis, cymis multifloris capitatis, calycis pubescentis basi bi-bracteati tubo cylindraceo laciniis subulatis tubum subæquantibus patentibus, corollæ hypocrateriformis (albæ) tubo gracili calycem triplo excedente, limbo 5-lobo laciniis ovalibus, staminibus styloque longissime exsertis.

Sent in July, 1846, from the rich collection of Messrs. Lucombe, Pince, and Co. of Exeter, who received it from Sierra Leone, discovered by Mr. Whitfield. It is one of those plants to which a drawing cannot do justice, and whose charm depends on the gracefulness of the entire plant, flowering at an early period, and bearing dense many-flowered heads from the extremity of every branch; and these blossoms, too, are highly fragrant and of the tenderest and purest white. It deserves a place in every stove-collection.

Descr. A low *shrub*, downy in almost every part, much branched; the *branches* obtusely tetragonal, the younger ones green. *Leaves* opposite, petiolate, ovate or ovate-oblong, acute, not serrated, but sinuated or angled at the margins, penninerved, and the nerves united by transverse nervelets, the base somewhat cordate. *Corymbs* solitary, many-flowered, the flowers collected into a large head or capitulum at the extremity of almost every branch, peduncled. *Pedicels* short. *Calyx* small, downy, bi-bracteolate at the base, the *tube* cylindrical, the *segments* subulated, about as long as the tube, spreading. *Corolla* pure white, hypo-

crateriform, glabrous: the *tube* thrice as long as the calyx, slender, terete: the *limb* cut into five nearly equal, spreading, oblong, obtuse, segments. *Stamens* very long, longer than the whole flower from the mouth of the tube. *Anther* small. *Ovary* sub-globose. *Style* filiform, equalling the length of the stamens: *stigma* bifid.

Fig. 1. Flower. 2. Pistil:—*natural size.*

Fitch del et lith.

Reeve imp

4256.

LESCHENAULTIA SPLENDENS.

Splendid scarlet-flowered Leschenaultia.

Nat. Ord. Goodenovieæ.—Pentandria Monogynia.

Gen. Char. Calycis tubus ovario adnatus, lobis 5 lineari-subulatis. *Corolla* tubo longitudinaliter fisso, limbo subbilabiato, lobis subserratis. *Antheræ* subanthesi cohærentes. *Pollinis granula* sphærulis 4 coalitis composita. *Capsula* prismatica bilocularis 4-valvis, valvis oppositis medio septiferis. *Semina* nucumentacea.—Frutices, *rarius* herbæ, *omnes e Nova Hollandia, glabri.* Folia *alterna angusta integerrima.* Flores *axillares v. terminales v. oppositifolii subsolitarii pedicellati. DC.*

Leschenaultia *splendens*; suffruticosa erecta ramosissima, foliis subflexuosis filiformibus compressis apiculatis patentibus, calycibus ebracteatis, corymbis 3–5-floris, (floribus nunc subsolitariis), calyce ebracteato, corollæ coccineæ tubo elongato intus inferne hirsuto, reliquo glabro, segmentis cuneatis patentibus subæqualibus bifidis cum mucrone tubum subæquantibus.

β. *stricta*; floribus plerisque solitariis, corollæ intensius coccineæ laciniis angustioribus, ramis magis virgatis.

The splendid colour of the flowers of this plant is only to be compared with that of the *Verbena Melindres.* Seeds of it were sent to Messrs. Lucombe, Pince, and Co., by Mr. James Drummond, and those excellent cultivators have succeeded in rearing flowering plants in their Nursery at Exeter, and of two varieties: one which we consider the type of the species, with broader segments to the corolla, and flowers in a corymb; the other with nearly, but by no means constantly, solitary flowers, and broader segments to the corolla, which, moreover, is of a deeper, but not so bright a scarlet. In the colour of the blossoms this species approaches the well-known *L. formosa*; but that has an orange hue, and the two anterior segments of the corolla are small and acute, and the larger segments are bent back on the short tube. In the foliage, and in the general structure and size of the corolla, indeed, our plants resemble the *L. biloba*, but the bright blue flowers of the latter, the shorter tube, and much more hairy corolla will distinguish it from that; while from *L. laricina* of Dr. Lindley, it may be recognized by the leaves by no means

"closely imbricated", and by the relative length of the segments of the corolla with the tube. If I am not greatly deceived, it is the present *Leschenaultia* which is spoken of by Mr. James Drummond at p. 369 of vol. iii. of Hook. Journal of Botany, as found on the banks of the Salt Hill River, and near Mr. Hall's residence on the Avon, Swan River Colony, "with bright scarlet flowers, about two feet high, and yellowish-green leaves": and then he speaks of the same species, at p. 371 of the same volume, as varying much in the colour of its flowers "producing rich dark purple inflorescence, also light purple, lilac, white, blood-red, bright scarlet, pink, rose-coloured, and through every possible intermediate shade of purple and scarlet." "It is curious," continues this indefatigable botanist, "to observe the great variety that prevails in the colour of the flowers of the same species, in *many* plants of this country." Handsome as is the var. *stricta*, it is far exceeded by the true *splendens*, which is of a more bushy character and the whole surface is literally covered with its brilliant blossoms, continuing a long time in perfection. The two kinds were exhibited at the Exeter Horticultural Show in August of this year, and we are much mistaken if anything more brilliant or more deserving of attention could be seen at that or any other recent exhibition of the kind. There is a tenderness and delicacy, too, in the foliage, which contrast admirably with the rich colour of the blossoms, of which there were, on the 2nd of August, more than three hundred expanded on one plant!

Descr. A *shrub* from one to two feet high, copiously branched, bushy and spreading in *α*, erect and with somewhat virgate *branches* in *β*. *Leaves* numerous, scattered, rather distant, patent and generally reflexed, filiform, slightly grooved on the upper side, apiculate. *Flowers* in terminal *corymbs*, each of from three to five or six flowers, on all the numerous branches. *Calyx* without bracts: the *segments* linear-subulate, almost as long as the tube of the corolla. *Corolla* of the richest scarlet (without and the tube pale), the *segments* nearly equal, about the length of the *tube*, broadly cuneate, bifid with a recurved mucro in the sinus: within, towards the base of the tube, is a hairy ring. *Stamens*, with the filaments, glabrous. *Style* glabrous: *stigma* two-lipped, oblique with a short pencil of hairs at the bend.

Fig. 1. Flower. 2. Portion of the tube of the corolla. 3. Flower with the corolla removed:—*magnified*.

Tab. 4257.

NYMPHÆA dentata.

Tooth-leaved Lotus.

Nat. Ord. Nymphæaceæ.—Polyandria Monogynia.

Gen. Char. Sepala ad basin tori. *Petala* staminaque cum toro carpella tegente longe adnata et bacca ideo quasi semi-infera cicatrisata.—Flores *ampli, albi, rosei, rubri aut cærulei, nunquam lutei. DC.*

Nymphæa *dentata*; foliis peltatis argute dentatis utrinque glabris nervis subtus valde prominentibus, calyce tetraphyllo vittato basi insiguiter truncatim depresso.

Nymphæa dentata. *Schum. et Thonn., Guin. Plant. p.* 249. *Walp. Repert. v.* 1. *p.* 107.

From the rich collection of Messrs. Lucombe and Pince, Exeter. The roots were brought from Sierra Leone by Mr. Whitfield, and produced their handsome flowers in the aquarium of the stove in August, 1846. Aquatic plants are, generally speaking, widely dispersed and not a little variable; so that it behoves us to adopt new species among them with great caution. There can be no doubt that the plant here figured is nearly allied to the celebrated *Nymphæa Lotus*, an inhabitant of the Nile, figured in Andrews' 'Botanist's Repository,' tab. 391, and to *N. thermalis*, DC., a native of Hungary, represented in Sims' Bot. Mag. t. 797 (under the name of *N. Lotus*); but if those delineations be accurate, the present is surely a different species, as well as an inhabitant of a widely different country: or, if the same, then are the plates most inaccurate, for neither in the base of the calyx, nor in the underside of the leaf, is there any similarity. Our plant seems to be unquestionably the *N. dentata* of Schumacher and Thonning, above quoted, which is a native of still waters on the coast of Guinea; and we have therefore so called it. Palisot de Beauvois' species of *N. Lotus* from the west coast of Africa, appears to be identical with ours, and perhaps should be quoted under *N. dentata*. The singularly prominent and glabrous venation on the underside of the leaf (similar to that of *Euryale ferox*, and of the *Victoria regia*), the large flowers, and

the calyx striped green and white, together with the white base of the calyx, and the peculiar contraction there, are characteristic of the present species.

Descr. An aquatic *plant*, with the *leaves* on long terete *petioles*, floating, orbicular-ovate, peltate, strongly but irregularly toothed, dark green, glabrous and smooth above, equally glabrous beneath, paler and with singularly prominent veins especially at their bases; these veins radiating, dichotomous, particularly so towards the margins, and united by slender transverse and often branched and reticulated veinlets. *Flowers* rising above the water, on terete *peduncles*. The *bud* elliptical. *Calyx* of four elliptical obtuse *sepals*, veined and striated green and white; the base singularly depressed and white. *Petals* numerous, white. *Stamens* and *stigmas* yellow.

Fitch del et lith.

Tab. 4258.

GOMPHOLOBIUM venustum.

Graceful Gompholobium.

Nat. Ord. Leguminosæ.—Decandria Monogynia.

Gen. Char. Calyx 5-partitus subæqualis. *Corolla* petalis 2 carinalibus concretis, vexillo explanato. *Stigma* simplex. *Legumen* polyspermum subsphæricum obtusissimum.—Frutices *Australasici rigiduli.* Folia *alterna composita breviter petiolata.* Fructus *intus extusque glabri.* Pedicelli *florum medio aut basi bibracteolati.* Calyces *sæpe lana subtili ciliati.* Corollæ *flavæ* (*v. purpureæ,*).

Gompholobium *venustum*; glabrum, ramis elongatis flexuosis laxis, foliis impari-pinnatis multijugis, foliolis anguste linearibus mucronatis (siccitate rugosis) marginibus revolutis, corymbo pedunculato multifloro, calycibus glabris ciliatis.

Gompholobium venustum. *Br. in De Candolle Prodr. v. 2. p.* 106. *Lehm. Pl. Preiss. p.* 40. *Spreng. Syst. Veget. v. 2. p.* 550.

A lovely greenhouse plant, from South-west Australia; first detected by Mr. Brown; Mr. Fraser gathered it in King George's Sound, and Mr. Drummond sends specimens and seeds from the Swan River settlement. From the latter, Messrs. Lucombe and Pince of Exeter have raised plants; which produced their copious corymbs of rich purple flowers in July, 1845. In the dried state the leaflets have a singularly rugose and almost beaded appearance, from the shrinking of the parenchyme between the transverse veins.

Descr. A *shrub* a foot or more high, with terete, long, flexuous, lax *branches*, glabrous, as is almost every part of the plant. *Leaves* remote, alternate, sessile or nearly so, pinnate; *pinnæ* numerous (eight to ten pair), opposite, spreading, the lower ones reflexed, all of them articulated on the rachis, narrow-linear, almost filiform, mucronulate; the margins or sides singularly revolute, so as to leave only a narrow furrow on the back: when dry, the leaves become rugose or submoniliform, from the shrinking of the parenchyme between the transverse veins. *Flowers* in terminal pedunculated *corymbs*, of a rich rose-purple colour. *Pedicels* slender (drooping in bud), bracteated at the base, and

with two slender opposite subulate *bracteas* below the middle. *Calyx* of five spreading, dark green, oblong, acute, glabrous *sepals*, ciliated at the margin. *Vexillum* broadly reniformi-rotundate, waved and subcrenated at the margin with a lunate, yellow spot at the claw. *Alæ* obovate, waved. *Carina* almost elliptical, concave, smooth. *Stamens* ten, free. *Ovary* semi-ovate. *Style* subulate. *Legume* subglobose, brown, glabrous, longer than the calyx.

Fig. 1. Flower. 2. The same, deprived of the petals. 3. Back view of the vexillum. 4. One of the alæ. 5. Carina. 6. Pistil :—*magnified*. 7. Fruit :—*natural size*.

Fitch del et lith

Bagster imp

Tab 4259.

CLEMATIS smilacifolia.

Smilax-leaved Clematis.

Nat. Ord. Ranunculaceæ.—Polyandria Polygynia.

Gen. Char. *Involucrum* nullum, aut calyciforme sub flore. *Sepala* 4–8 colorata. *Petala* nulla, aut sepalis breviora. *Caryopsides* numerosæ, in caudam sæpius barbato-plumosam productæ.—Radices *perennes.* Folia *exacte opposita.* *DC.*

Clematis *smilacifolia*; scandens dioica, foliis amplis longe petiolatis simplicibus cordato-ovatis breviter acuminatis glabris 5–7-nerviis integerrimis vel obsolete et glanduloso-serratis, racemis paniculatis axillaribus vel terminalibus, sepalis 4 oblongis acutis extus ferrugineo-tomentosis cito revolutis, fructus caudibus plumosis.

Clematis smilacifolia. *Wall. in Asiat. Res. v.* 13. *p.* 420. *De Cand. Prodr. v.* 1. *p.* 10.

Clematis smilacina. *Bl. Bijdr. p.* 1.

Clematis glandulosa? *Bl. l. c.*

Clematis subpeltata. *Wall. Pl. Asiat. Rar. p.* 19. *t.* 20.

A fine but very little known species of "Traveller's Joy", with large scandent stems, handsome undivided leaves, marked with from five to seven nerves, much resembling those of some *Smilax*, large paniculated racemes of diœcious or monœcious flowers, having singularly revolute sepals, dark rusty brown and downy without, almost black and glabrous within. Four allied species, with these characters, have been described by Blume and Wallich: but which, judging from the diagnoses of the authors, as well as by herbarium specimens, might reasonably be united into one, the original *smilacifolia* of Dr. Wallich from Nepal. Of the identity of our plant, introduced from Java to the stoves of this country (where it flowers in June and July), I have satisfied myself by comparison with authentic specimens. The *Clematis*, n. 1006 of Zollinger's 'Java Plants,' seems quite to agree with the *Cl. glandulosa* of Blume, but I can in no way distinguish it from *Cl. smilacifolia.* The *Cl. smilacina* of Blume is probably a misprint for "*smilacifolia*", and intended to be considered the plant of Wallich; and lastly, of the *Clematis subpeltata* of

Dr. Wallich, from Tavoy, that distinguished author observes that it differs from *Cl. smilacifolia* only "in its having subpeltate, broad-cordate leaves, in the panicles being shorter, the sepals ovate."

Cl. smilacifolia has been introduced by Mr. Veitch of the Nursery, Exeter, from Java, and hitherto treated as a stove-plant: but being a mountain species, it will perhaps succeed well in a greenhouse, where it would make a handsome climber.

Descr. *Stem* scandent, apparently extending to a great length, glabrous. *Leaves* large, on long *petioles*, cordato-ovate, shortly acuminate, entire or obscurely and slightly glanduloso-serrate, glabrous, five- to seven-nerved, the *nerves* more or less united by transverse nervelets, which are branched. *Racemes* or *panicles* axillary or terminal. *Pedicels* very long, flexuose, bracteated at the base, opposite, tinged with purple. *Flower*, in bud ovate, acute, rusty coloured: opening into four oblong-lanceolate subcoriaceous acute *sepals*, which soon become revolute, and are glabrous and almost black within and glossy, externally clothed with ferruginous down. Female flowers with numerous *pistils*, each terminated with long, feathery, white and silky *awns*.

Tab. 4260.

ÆSCHINANTHUS Lobbianus.

Mr. Lobb's Æschinanthus.

Nat. Ord. Cyrtandraceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4236.)

Æschinanthus *Lobbianus*; subscandens, foliis ellipticis carnosis aveniis integerrimis v. obscure serratis glaucis, corymbis terminalibus bracteatis, calyce amplo cylindraceo-subcampanulato dense nigro-tomentoso segmentis brevibus acutis patentibus, corolla calyce vix duplo longiore pubescente.

Æschinanthus Lobbianus. *Hort. Veitch.*

Splendid as is the present species of *Æschinanthus*, this figure will soon be followed by that of an allied one (*Æ. pulcher*) not less beautiful, and both imported by Mr. Veitch of the Nursery, Exeter, through the medium of his collector, Mr. Thomas Lobb, from Java. They are there probably Epiphytes, therein resembling many Orchideous plants; and seem to be amongst the most brilliant of the vegetation of that fertile country. Like the Orchideous Epiphytes, too, they seem to be by no means difficult of cultivation in a moist stove, and they are assuredly very free flowerers. Of all the species with which we are acquainted, however, and there are not a few which we possess in our Herbaria, the two now alluded to are certainly the most striking, the present especially so, from the strong contrast between the purplish-black calyx and the brilliant hue of the corolla. It flowers from June to August.

Descr. A straggling branching *shrub*, of a succulent character. *Stem* and *branches* deep purple, terete, glabrous. *Leaves* opposite, fleshy, but very firm, almost cartilaginous, on short *petioles*, spreading, elliptic, glaucous, with the edge or margin generally purple, entire or slightly serrated, having a depressed line in the middle, but no conspicuous veins, obtuse at the base, rather more acute at the point. *Corymb* terminal, bracteated. *Pedicels* short, purple, downy; *bracts* cordate, membranaceous, dark purple, entire, about as long as the pedicels. *Calyx* large, ample,

cylindrical, but enlarging a little upwards, hence approaching to campanulate, the *limb* of five short, spreading, rather acute segments, the whole black-purple, glossy, and clothed with dense blackish tomentum. *Corolla* about twice as long as the calyx, rich scarlet, everywhere downy, curved; the *tube* much contracted above the bulbiform ovate base; the *limb* oblique, of four nearly equal, erecto-patent ovate *segments*, of which the upper one alone is bifid; at the *faux* of the corolla are four, double, radiating, pale lines, two on each segment, accompanied by dark spots. *Stamens* and *pistil* extending to the apex of the upper lobe of the corolla. Perigynous *gland* a five-lobed fleshy cup. *Ovary* cylindrical, downy. *Style* equal in thickness to the ovary, downy. *Stigma* a transversely oblong disc, also downy.

Fig. 1. Corolla:—*natural size*. 2. Pistil and perigynous disc:—*magnified*.

Tab. 4261.

FUGOSIA HAKEÆFOLIA.

Hakea-leaved Fugosia.

Nat. Ord. Malvaceæ.—Monadelphia Polyandria.

Gen. Char. (*vide supra*, Tab. 4218.)

Fugosia *hakeæfolia*; fruticosa erecta, foliis bipinnatis trifidis (summisque) integris, laciniis linearibus acuminatis integerrimis canaliculatis subcarnosis, pedunculis axillaribus solitariis unifloris folio breviore superne paululum incrassatis inferne bi-bracteolatis, calycibus eglandulosis, corolla (purpurea) basi maculis 5 sanguineis.

Hibiscus hakeæfolius. "*Giordano, Mem. Nuov. Ibisc. cum icone.*" (*Linnæa, v.*. 11. *Lieterb. p.* 9.). *Walp. Repert. v.* 1. p. 306. *Lehmann, Plant. Preiss. p.* 239.

A lovely hibiscoid plant, flowering at an early period of growth, bearing copious large blossoms of a rich lilac-purple, with a deep red-purple eye, surrounding the long staminal column, and these flowers, contrary to what is usual in the *Hibiscus* family, remaining many days expanded. This most desirable shrub was introduced by Messrs. Lucombe and Pince, being raised by them from Swan River seeds in the spring of 1846. In the summer the plants flowered profusely. An allied species (if it be really distinct) is the *Hibiscus lilacinus*, of Lindl. Bot. Reg. t. 2009, from the same region of Australia; but the leaves of the latter are broader, and the corolla is destitute of the deep purple eye which gives such a brightness to the blossoms of the present species. Strangely enough, Walpers retains *H. hakeæfolius* in *Hibiscus*, and refers *H. lilacinus* to *Lagunaria* of Don; whereas a very slight inspection will show that both are naturally placed in the genus *Fugosia*, of which the character is given at Tab. 4218, of the present volume. I possess native specimens gathered by Mr. Fraser at Swan River and King George's Sound, by Mr. Drummond in the same localities in 1843 (n. 57), and by Mr. Collie at Flinders Bay. Flowers in August.

Descr. A *shrub*, four to five feet high, erect, sparingly branched, the *branches* twiggy, rounded, dark green, glabrous, as is every

part of the plant. *Leaves* distant, very variable, the lower ones the most compound, bipinnatifid, the intermediate ones commonly trifid, the uppermost ones entire, the latter and the segments of the others linear, attenuated, somewhat fleshy, grooved above. *Flowers* large, handsome. *Peduncles* axillary from the upper leaves, but shorter than they, slightly incrassated upwards and there forming a toothed cup with the small subulate involucral scales: below bearing two small *bracteoles*. *Sepals* lanceolate, much acuminated, with two or three strong ribs. *Corolla* large, soon reflected, purple-lilac, paler below the middle; at the bottom each petal has a dark red-purple radiating spot. *Staminal tube* long. *Anthers* very numerous. *Ovary* oblong-ovate, downy, five-celled. *Style* longer than the staminal tube, thickened upwards with five blunt stigmas.

Fig. 1. Pistil. 2. Section of ditto, shewing the ovules :—*magnified*.

Tab. 4262.

PLEROMA elegans.

Elegant Pleroma.

Nat. Ord. Melastomaceæ.—Decandria Monogynia.

Gen. Char. Calycis tubus ovatus, junior bracteis 2 deciduis involutus, lobi 5 decidui. *Petala* 5 obcordata. *Stamina* 10. *Filamenta* pilosa v. glabra. *Antheræ* elongatæ basi arcuatæ, connectivo stipitiformi basi breve biauriculato. *Ovarium* calyci adnatum, apice setosum. *Capsula* baccata subsicca 4-locularis. *Semina* cochleata.—Frutices *Australi-Americani, sæpissime setis appressis scabri.* Folia *subrigida*, 5-*nervia*. Flores *ampli, purpurei, in racemum paniculamve dispositi.*

Pleroma *elegans*; ramulis teretiusculis adpresse setoso-hispidis, foliis petiolatis ovato-oblongis utrinque acutis supra glaberrimis rugosis subtus adpressa pilosis 3-nerviis ciliatis, floribus subternis terminalibus, pedicellis brevibus hispidis, bracteis lanceolatis ciliatis, calycis setosi lobis angustis petalis glabris, filamentis subpilosis. *Gardn.*

Pleroma elegans. *Gardn. in Hook. Lond. Journ. Bot. v. 2. p.* 350.

A plant of great beauty, with copious, glossy, strongly nerved foliage, and flowers of a large size and peculiarly splendid colour, to the rich velvety purple of whose hue no pencil can do justice. It is a native of the Organ Mountains, growing at an elevation of 4,500 feet, where it was first detected by Mr. Gardner (n. 405 of his collection), and subsequently by Mr. W.Lobb, who sent it to Mr. Veitch. In that gentleman's Nursery at Exeter, it bore its splendid blossoms in June, 1846.

Descr. A *shrub* four to six feet high, erect, branched; the *branches* opposite, deeply tinged with red and rough with closely-pressed rigid scale-like bristles. *Leaves* opposite, on short *petioles*, ovate, or rather elliptical, acute, three-ribbed, glabrous and glossy and dark-green above, beneath more or less clothed with appressed leaves, and very pale-coloured, the margins entire, ciliated, often tinged with red. *Flowers* terminal, solitary, or ternate; *pedicels* short, generally bearing two small leaves, and, around the calyx, two or three large deciduous coloured *bracts*. *Calyx-tube* globose, hispid; *segments* five, spreading, lanceolate and hispid, ciliated, deciduous. *Stamens* 10, four small, four larger. *Fila-*

ments subulate, slightly hairy; *anther* sickle-shaped, terminating in a long tube opening with a pore: at the base, on the junction with the filament, is a globose *gland*. *Fruit*, with its enveloping calyx-tube, globose, hispid.

Fig. 1. Stamens. 2. Calyx and Pistil (with two segments cut away). 3. Immature fruit:—*magnified*.

We gladly occupy a vacant space on this leaf, which the Supplement does not afford this month, with the mention of a plant of great rarity and beauty, which promises to be a highly ornamental stove-plant.

COMBRETUM *Pincianum*; foliis brevi-petiolatis oppositis amplis obovato-oblongis glabris punctulatis integerrimis reticulatis tenui-acuminatis basi acutis, floribus parvis numerosissimis (coccineis) racemos compositos paniculatos speciosos formantibus, bracteis (seu foliis floralibus) ovatis, ramulis pedicellisque rufo-pilosis, calycibus subcylindraceis, dentibus rectis brevibus, petalis vix exsertis, staminibus styloque longe exsertis.

HAB. Sierra Leone; *Mr. Whitfield*.

We trust, ere long, to be able to give a figure of this splendid species, which Messrs. Lucombe, Pince, and Co., cultivate successfully in their Nursery at Exeter. Our specific character is drawn up from original dried specimens, aided by a branch of the living plant, which shows the leaves to be above a foot long, of a rich but delicate green, with a sort of metallic lustre, when viewed in a particular light. The panicles of flowers, in the Herbarium, measure a foot and a half, clothing the copious terminal branches with innumerable red or purplish-red blossoms, having long exserted red stamens and styles. The bracteas, numerous as they are, by no means conceal the blossoms, but rather serve to increase their beauty by the admixture of another colour. The shrub cannot be called a climber, though there seems a slight tendency to lengthen itself: it is, in reality, of a stout and sturdy habit. In its native country, Mr. Whitfield observes, it forms a dense bush, not exceeding six feet in height, loaded with innumerable richly-coloured blossoms. Its nearest affinity is probably the *C. comosum* of Don, whose panicles of flowers are said to be truly splendid; but that species has the leaves "subcordate at the base", whereas the leaves of *C. Pincianum* are remarkable acute at the setting on of the petioles.

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Tab 4263.

STENOCARPUS Cunninghami.

Mr. Cunningham's Stenocarpus.

Nat. Ord. Proteaceæ.—Tetrandria Monogynia.

Gen. Char. *Perianthium* irregulare, foliolis distinctis, secundis. *Stamina* apicibus cavis foliolorum immersis. *Glandula* hypogyna unica, semi-annularis. *Ovarium* pedicellatum, polyspermum. *Stylus* deciduus. *Stigma* obliquum, orbiculato-dilatatum, planiusculum. *Folliculus* linearis. *Semina* basi alata !—Frutices *glaberrimi*. Folia *alterna integerrima*. Umbellæ *axillares v. terminales, pedunculatæ*. Flores *ochroleuci, (v. aurantiaci)*. *Br.*

Stenocarpus *Cunninghami*; foliis amplis obovato-lanceolatis integris sinuatis pinnatifidisve, umbellis compositis, floribus sericeo-aurantiacis.

Agnostus sinuatus. *Ill. Cunn. Loudon Hort. Brit. p.* 580. (*name only*).

So long ago as 1828 the lamented Allan Cunningham discovered this plant on the banks of the Brisbane River, Moreton Bay, with other interesting novelties, described by him in the 1st vol. of the Botanical Miscellany: such as *Grevillea robusta, Oxleya xanthoxyla, Castanospermum australe, Gyrostemon attenuatum, Acrostichum grande*, &c., &c. Not, however, meeting with the subject of our present plate in flower, he took no further notice of it in his Journal than to remark (as I am kindly informed by Mr. Heward) that "it is a slender tree, of most remarkable habit; with leaves large, from the extremities of the branches, glossy and lobed, or laciniated;—without flower or fruit. No. 193." Had he seen its blossoms, elegantly arranged in candelabrum-like umbels, clothed with the most vivid orange-scarlet silky pubescence, he would assuredly have ranked it among the most important of his numerous additions to the Australian Flora. Two rooted plants were sent home and cultivated with great care by Mr. Smith, (from which all others in the country have had their origin), but although they have attained a height of 16 feet, he has never been rewarded by seeing them blossom; nevertheless he rightly suspected the tree to belong to the family of *Proteaceæ*. This idea is confirmed by some fruits (destitute of seeds) which I received in 1843 from T. Bidwill, Esq., who gathered them in the same locality; and from this

fruit, Mr. Brown pronounced the plant to belong to the genus *Stenocarpus*. For fine flowering specimens I am indebted, in August, 1847, to the kindness of Messrs. Weeks and Day, from the greenhouse of the 'United Gardeners' Society', King's Road, Chelsea, and I learn from Mr. Makowski of that establishment, that its blossoming is considered to be owing to the plant having been much cut in for the purpose of increase.* The handsome evergreen, glossy foliage, has, indeed, long recommended this plant to the attention of cultivators, and now that its beautiful inflorescence is known, there can be little doubt but the demand for it will be in proportion to its loveliness. Mr. Smith remarks that it is a robust growing plant, and not, like many of the *Proteaceæ*, apt to die off suddenly.

Descr. *Plant*, constituting a small tree 16 feet and more high, with a slender *trunk*, branched, and bearing the ample and glossy evergreen foliage at the extremities of the *branches*. *Leaves* alternate, one to two feet in length, obovato-lanceolate, petiolate, obtuse, entire or sinuated, lobed and pinnatifid, penninerved, the segments oblong, obtuse, everywhere entire and glabrous. *Flowers* umbellate: *umbel* compound, peduncled, lateral from an old branch, or sometimes terminal; in the umbel before us consisting of five rays, of which four are in a whorl, horizontal (as respects the axis), the fifth central and vertical, terete, clothed with deciduous golden down, articulated upon the main rachis: the extremity curved downwards and the very apex dilated into a flattened and angled disc, the edge of which bears about thirteen or fourteen partial rays or pedicels of the umbel, radiating like the spokes of a wheel and with the most perfect regularity, all inclining a little upwards, each bearing a single downy flower and spreading almost exactly horizontally, all on the same plane. Before expansion the perianth is club-shaped, tawny- or golden-green, the underside of the club, or head, yellow-green. The mode of expansion of the five linear-clavate *sepals* is very curious and adds greatly to the beauty of the flower, when all are alike expanded. The colour within is a most brilliant orange-scarlet, the *pistil* the same, the clubbed (or rather spathulate) apices of the sepals and the large *stigmas* only being a golden yellow. At first the three outer segments of each flower become deflexed, all hanging down around, and at a certain distance from, the axis, resembling the deflexed ray of some splendid composite plant: and at the same time the pistil suddenly becomes bent in the

* The great heat and much sun of the present season have also no doubt contributed to the flowering of *Stenocarpus Cunninghami*; for while this sheet is in the press, I learn from Dr. Balfour, who has obligingly sent a specimen, that it has blossomed in the Edinburgh Botanic Garden, and also at the Birmingham Botanic Garden, under the care of Mr. Cameron.

middle (geniculated) and rises upwards, so that the rich coloured stipites are erect, the style standing forward, and the whole circle of brilliantly coloured pistils forming a corona to the umbel: the fourth sepal within the crown is the last to separate from the stigma, and collectively, for a time, they form a sort of inner corona: they soon become flaccid and deciduous, when the richly-coloured pistils remain like the skeleton or frame of some beautiful piece of basket-work: the lower half vertical, the upper half inclining outwards nearly horizontally. The lower half is constituted by the stipes, which has a long adnate deep blood-coloured *scale* at the base. The geniculation takes place at the ovary, which is small, silky, and contains several ovules. The *style* exactly resembles the stipes. *Stigma* an oblique compressed lateral dilated golden disc. *Fruit* a follicular nearly terete *capsule*, about as large as the little finger, apiculate, woody, chocolate-brown, opening longitudinally on one side for its whole length. From some remnants of seeds, it is evident they are winged.

* In the specimen sent by Dr. Balfour, two peduncles spring from the apex of a branch, each bearing an umbel.

Fig. 1. Bud. 2. Expanded flower:—*slightly magnified.* 3. Follicle:—*natural size.*

Tab. 4264.

ÆSCHINANTHUS PULCHER.

Beautiful Æschinanthus.

Nat. Ord. Cyrtandraceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4236.)

Æschinanthus *pulcher*; scandens, foliis ovatis coriaceo-carnosis immerse venosis obscure dentatis, corymbis terminalibus bracteatis, calyce ovato-cylindraceo glabro basi obtuso segmentis brevibus erectis, corolla calyce triplo longiore glabro.

Æschinanthus pulcher. *De Cand. Prodr. v. 9. p. 262.*

Trichosporum pulchrum. *Bl. Bijdr. p. 764.* *Hassk. Cat. Bogor.* p. 153.

To this splendid plant we alluded, under an equally handsome species, *Æsch. Lobbianus*, figured in our last Number, Tab. 4261. It was sent from Java to Mr. Veitch of the Exeter Nursery, by his collector, Mr. T. Lobb, under the name here adopted, and is probably known in that Island as the true species so called; otherwise we should scarcely have guessed it to be the same plant; since that species comes into De Candolle's division, "pedunculis axillaribus bifloris". The description, however, is in that particular at variance with that of the section: for the peduncles are said to be "fasciculated", axillary, and "terminal". It is chiefly distinguished from *Æ. Lobbianus* by its broader leaves, shorter tube of the calyx, quite glabrous and very much more exserted tube of the corolla. It flowers in June and July, and was exhibited at the Chiswick Horticultural Show about that period.

Descr. Probably an epiphytal *plant*, with slender *branches*, opposite, shortly petioled *leaves*, which are broadly ovate, thick, fleshy, but firm, very obscurely toothed at the thin edge; *veins* pinnated, conspicuous. *Corymb* terminal, sessile, bracteated; *bracteas* small, cordate, leafy. *Pedicels* short, rather thick. *Calyx* cylindrical-urceolate or ovate, quite glabrous, yellow-green, reddish above; *limb* of five blunt, nearly equal, erect teeth. *Corolla* three or four times as long as the calyx, rich scarlet; the

tube enlarged and then a little gibbous beneath, the base globose; above the base the tube is constricted and very narrow; the *mouth* oblique, the *limb* scarcely two-lipped; upper segment bifid, the other three entire; all of them ovate. *Stamens* a little longer than the faux of the corolla. *Style* generally exserted. *Stigma* peltate, oblique. *Ovary* almost linear, the base surrounded by a fleshy ring.

Fig. 1. Corolla :—*natural size*. 2. Pistil :—*slightly magnified*.

Tab. 4265.

LESCHENAULTIA arcuata.

Drooping Leschenaultia.

Nat. Ord. Goodenovieæ.—Pentandria Monogynia.

Gen. Char. (*vide supra*, Tab. 4256.)

Leschenaultia *arcuata*; suffruticosa, ramosissima, ramis primariis divaricatis subarcuatis, foliis sparsis filiformibus acutis, floribus in ramulos numerosissimos terminalibus, calyce ebracteolato, laciniis oblongis acutis, corollæ (generis) magnæ laciniis 3 latissimis patentibus bifidis, 2 superioribus minoribus integris stamina stylumque includentibus, tubo brevi ventricoso, intus hinc sericeo.

Leschenaultia arcuata. *De Vriese in Lehm. Plant. Preiss. p.* 416.

A singular and truly handsome species of *Leschenaultia*, exceedingly different from every other known one, having copious, spreading, decurved *branches*, with innumerable *branchlets*, almost every one of which is terminated with a large red-purple and yellow flower. Raised by Messrs. Lucombe, Pince, and Co., at their extensive Nursery, Exeter, from Swan River seeds, sent by by Mr. Drummond. It is a greenhouse plant, and noble samples were communicated by the cultivator, from which our figure is made. The flowers have a good deal the appearance of those of the large shrubby *Polygalæ* of South Africa, but here they are exceedingly numerous upon a small plant. Flowers in August. Mr. Drummond has long ago sent home copious dried specimens of the species.

Descr. A low, prostrate, half-shrubby *plant*, with the main *branches* spreading and curved downward (whence the specific name), striated; *branchlets* more erect, but flexuose. *Leaves* scattered, patent, small, filiform, acute. *Flowers* large, on the numerous small branches, terminal, solitary. *Calyx-sepals* oblong, acute, concave. *Corolla* with the *tube* very short, ventricose on one side, cleft on the opposite one, silky within; *limb* two-lipped; segments five, three spreading, large, broadly obcordate, bifid and mucronate, sulphur-yellow, the wings very wide; two

much smaller, obovate, closing over the stamens and style, red-purple. *Stamens* glabrous. *Style* long, flexuose, capitate and downy, beneath the transversely two-lipped *stigma*.

Fig. 1. Flower from which the corolla is removed; 2. Tube of the corolla:—*magnified*.

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Tab. 4266.

EUCALYPTUS Preissiana.

Dr. Preiss' Eucalyptus.

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

Gen. Char. Calycis tubus persistens obovatus aut globosus cupulæformis, *limbus* operculiformis integer basi circumscissa et regulariter dehiscens deciduus. *Petala* 0. *Stamina* filamenta numerosa libera. *Capsula* 4-locularis aut abortu 3-locularis apice dehiscens polysperma.—Arbores (*Novæ Hollandiæ*) *excelsæ.* Folia *integerrima coriacea sæpius alterna, rarius opposita, interdum in iisdem.* Pedunculi *axillares breves umbellam* 3–15-*floram gerentes.* Operculum *in nonnullis* (*excl. Brown*) *duplex, exterius calycinum, interius corollinum. DC.*

Eucalyptus *Preissiana*; fruticosa, ramulis 4-angularibus rigidis strictis, foliis verticalibus oppositis ellipticis petiolatis penninerviis viridibus, pedunculis axillaribus solitariis trifloris ancipiti-compressis latissimis petiolo longioribus, **cupula turbinata brevissime pedicellata.**

Eucalyptus Preissiana. *Schauer, in Lehm. Pl. Preiss. p.* 131.

A handsome tree-like shrub, of which Dr. Schauer says, "species inter omnes tam habitu quam characteribus maxima insignis"; with the foliage fragrant (like that of the Myrtle), when bruised, and flowers of rather a large size; rendered more conspicuous by the copious yellow stamens, spreading far beyond the diameter of the cupula. It is a native of Western Australia whence seeds have been sent from Dr. Preiss of Swan River, to the Royal Gardens of Kew, and dried specimens both by him and by Mr. Jas. Drummond. Dr. Preiss' specimens are more distinctly indicated as natives of Cape Riche (no. 209, Preiss. Herb.), and as rising to a height of eight feet. Our plant flowered in the summer of 1846, when it had attained a height of five feet. It thrives in a cool Greenhouse, and in the summer is the better for standing in the open air.

Descr. *Shrub*, having a tree-like mode of growth, from five to eight feet high, erect, branched; *branches* spreading, the main ones like the stem rounded and pale-brown: the ultimate ones red-purple, with usually four sharp angles. *Leaves* opposite, on short petioles, elliptical, vertical, dark green (costa prominent and red on both sides), the margin entire, often edged with red,

the surface penninerved, the interstices reticulated, the colour dark, full green, (not in the least glaucous). *Peduncle* solitary, short, scarcely longer than the petiole, very broad, flat, ancipitate, bearing at the extremity three flowers. The *lid* or *operculum* I have not seen. *Cupula* turbinate, thick and leathery, on a very short, but thick, *pedicel*, its breadth at the mouth rather greater than the length. *Ovary* immersed in the base of the cupule, its summit angled and radiated. *Stamens* very numerous, spreading: *filaments* pale yellow: *anthers* full yellow, almost orange. *Style* protruded.

Fig. 1. Cupule and ovary :—*magnified*.

Tab. 4267.

BOLBOPHYLLUM umbellatum.

Umbelled Bolbophyllum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4166.)

Bolbophyllum *umbellatum*; rhizomate repente, pseudo-bulbis oblongis angulatis, foliis solitariis oblongis loratis obtusis subemarginatis, scapis foliis æqualibus, floribus umbellatis, sepalis lateralibus obliquis falcatis obtusis majoribus supremo rotundato nano, petalis ovatis obtusis, labello cordato ovato complicato integerrimo emarginato, columna marginata setis duabus hinc unidentatis aucta, polliniis 4 reniformibus posticis minimis muco apice cohærentibus. *Lindl.*

Bolbophyllum umbellatum. *Lindl. in Wall. Cat. n.* 1984. *Gen. et Sp. Orchid. p.* 56. *Bot. Reg.* 1845, *t.* 44.

This pretty Orchideous plant was presented, with many other rarities, by Dr. Wallich, to the Royal Gardens of Kew, where it flowered in August, 1846. It is a native of northern India, of Nepal and Khasiya hills, and recommends itself to our collections by its prettily spotted flowers and the curious column and lip.

Descr. From a creeping cylindrical *root-stock* arise several *pseudo-bulbs*, oblong-ovate, compressed, furrowed in age, while young partially sheathed by a brown membrane. *Leaf* solitary from the top of the pseudo-bulb, a span or more long, narrow oblong, obtuse, subcoriaceous. *Scape* from the base of the pseudo-bulb, articulated, and with sheathing bracts. *Flowers* umbellate, the pedicels bracteated at the base. *Sepals* and *petals* pale yellow, spotted with blood-colour; of the former, the two lateral *sepals* are the largest, with an oblique twist, the upper one smaller, and the petals smaller still, all of them nearly oval and obtuse. *Lip* very small, cordato-oblong, white with purple spots, fleshy, the lower part appressed to the decurrent base of the column, then reflexed; the apex emarginate. *Column* short, with two projecting wings, terminating above in two projecting

subulate horns on each side the anther-case. *Pollen-masses* yellow.

Fig. 1. Front view of the column and lip, together with the base of the perianth. 2. Side view of the column and lip. 3. Pollen-masses :—*magnified.*

Fitch del et lith

Tab. 4268.

SCUTELLARIA INCARNATA.

Flesh-coloured Skull-cap.

Nat. Ord. Labiatæ.—Didynamia Gymnospermia.

Gen. Char. Calyx campanulatus, bilabiatus, labia integra, post anthesin clausa, demum usque ad basin fissa, superius supra squama dilatata supra concava auctum, ad maturationem deciduum, inferius persistens. *Corolla* tubo longe exserto, intus nudo, recto v. sæpius extra calycem recurvo-adscendente, superne in faucem dilatato, limbo bilabiato, labio superiore apice integro v. emarginato, inferiore patenti-dilatato convexo, apice emarginato, lobis lateralibus nunc liberis patentibus, sæpius cum labio superiore coalitis, rarissime cum inferiore. *Stamina* 4, sub galea adscendentia, didynama, inferioribus longioribus. *Antheræ* per paria approximatæ, ciliatæ, staminum inferiorum dimidiatæ, superiorum biloculares, cordatæ, loculis subdivaricatis, dorso oppositis. *Styli* lobus superior brevissimus, inferior apice stigmatifer. *Ovarium* gynophoro incurvo elevatum, obliquum. *Achenia* sicca, nuda, tuberculosa, glabra v. tomento adpresso pubescentia.—Herbæ *annuæ v. perennes, rarius frutices.* Inflorescentia *nunc tetragono-spicata, foliis floralibus membranaceis subimbricatis coloratis; nunc racemosa, floralibus parvis; nunc axillaris, foliis floralibus caulinis subconformibus.* Pedunculi *in axillis solitarii uniflori breves, sæpius oppositi, at in* sect. Heteranthesia *cum foliis floralibus sparsi!* Bracteæ *subnullæ.* Corollæ *cæruleæ v. flavidæ, rarius purpurascentes v. coccinei. Benth.*

Scutellaria *incarnata*; erecta ramosa, foliis ovatis ovato-lanceolatisque grosse serratis acuminatis subtus pubescentibus, racemis terminalibus plurifloris bracteis lineari-lanceolatis pedicello longioribus, calycis appendice calyce longiore, corollæ tubo elongato superne dilatato, lobo superiore vix fisso.

Scutellaria incarnata. *Vent. Choix des Pl. tab.* 39 (upper figure var. *β. minor*). *Benth. Lab. p.* 429. *var. β.*

From the rich collection of the Exeter Nursery of Messrs. Veitch, who received the seeds from Professor W. Jameson of Quito, gathered on the western declivities of the Andes.* I was led on the first investigation of the plant to consider it the same with the *S. coccinea* of Humboldt, but a stricter comparison with the description in the Nov. Gen. et Sp. Am. Merid., soon convinced me of this error; and I now refer it with little hesitation to *S. incarnata* of Ventenat. I am, however, disposed to think that author has confounded the *S. coccinea*, or some

* It is no. 301 of that gentleman's distributed collections.

other species, with this; and that his var. β. alone is our plant. The very different colour and shape of the flowers would suffice to distinguish them. In his specific character, Ventenat calls the flowers "incarnates"; and in his description he speaks of them as "d'un beau rouge". If this latter colour applies to the lower figure, and the flesh-colour to the upper one, it would tend to confirm my opinion, that the latter is a representation of our present plant; the former being another species which we think we possess, and trust to be able to figure in this Magazine, in the next month's Number. *S. incarnata* differs from that in its narrower and more membranous leaves, borne on short foot-stalks, in the larger appendage to the calyx, deep-rose (rather than flesh-colour), with a shorter tube of the corolla, more dilated upwards, and in the almost entire upper lobe of the limb. It is a greenhouse plant, and being readily increased by cuttings, will doubtless be a great ornament to our flower-borders, if an entire bed is devoted to it. Flowers in July and August.

Descr. *Stem* a foot to a foot and a half high, erect, slender, *branches* opposite. *Leaves* opposite, on short *petioles*, ovate or ovato-lanceolate, slightly acuminate, membranaceous, coarsely serrated, penninerved, paler and downy beneath. *Racemes* terminal, many-flowered, the lower *flowers* opposite and sometimes leafy, the rest alternate, bracteated; *bracteas* small, but longer than the pedicels, linear-lanceolate. *Pedicels* shorter than the *calyx*, which is slightly downy, two-lipped, bearing a red appendage or crest on the back, larger than the calyx. *Corolla* deep purplish rose-colour, glabrous; the *tube* slightly curved at the base, dilated upwards, two-lipped, lower *lip* entire, ovate, upper fornicate, three-lobed (the lateral lobes entire, united with the superior one, which is scarcely emarginate). *Stamens* included. *Ovaries* four, small, glabrous, seated on a large fleshy gland or *gynobase*, which is downy in front. *Style* included, slender, curved at the base; *stigma* bifid.

Fig. 1. Corolla laid open. 2. Calyx. 3. Pistil:—*magnified.*

Fitch del. et lith.

Tab. 4269.

CLEMATIS tubulosa.

Tubular-flowered Clematis or Virgin's Bower.

Nat. Ord. Ranunculaceæ.—Polyandria Polygynia.

Gen. Char. (*Vide supra*, Tab. 4259.)

Clematis *tubulosa*; erecta subpubescens dioica (?), foliis longe petiolatis trifoliolatis, foliolis rhombeo-ovatis sublobatis mucronato-dentatis venosis lateralibus inæquilateris brevi- intermedio longe petiolatis, corymbis terminalibus axillaribusque subcompositis, sepalis lineari-oblongis primum tubulosis demum revolutis (cæruleis) extus pubescentibus, staminibus uniserialibus, filamentis (sub 16) dilatatis, ovariis stylisque sericeis, stigmate recurvato.

Clematis tubulosa. "*Turczan. Bullet. Sc. Nat. Mosc.* xi. 148." *Walp. Enum. v.* i. *p.* 5.

A handsome but singular-looking *Clematis*, with an upright, slightly branched stem, long petioled leaves, and clusters of blue flowers. These leaves have rather the appearance of some *Actæa*. It is a native of northern China, and has flowered in the greenhouse of the "United Gardeners' Nursery Society", King's Road, Chelsea, under the care of Messrs. Weeks and Day, whence it was obligingly sent, in great beauty, by Mr. Makowski.

Descr. *Stem* two feet high, erect, slightly branched, somewhat woody at the base, the rest herbaceous, striated and tinged with purple. *Leaves* in opposite pairs, remote, on long *footstalks*, swollen at the base, terete, grooved above, trifoliolate; the *leaflets* rigid, slightly downy, rhombeo-ovate, the two lower, or lateral ones, unequally sided and on short opposite petiolules; the intermediate one on much the longest petiole, equal; all of them lobed and toothed, each tooth mucronate, the surface reticulated, the veins very prominent beneath. *Flowers* in axillary and terminal *corymbs*, simple or compound; *peduncles* and *pedicels* downy. *Sepals* four, linear-oblong, thick and rather fleshy, distinct, but approximate, bluish-purple, silky, at first erect and forming a tube, then reflexed, the lower half slightly swollen, base only tubular. *Stamens* about sixteen, in a single series. *Filaments* dilated:

anthers linear, longer than the tubular portion of the corolla. *Pistils* (fertile?) small, several, closely compacted. *Ovary* ovate, silky. *Style* erect, clothed with long silky hairs which terminate in two erect tufts or pencils: *stigma* recurved, club-shaped.

Fig. 1. Stamen. 2. Pistil:—*magnified.*

Tab. 4270.

CATTLEYA Skinneri.

Mr. Skinner's Cattleya.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Sepala* membranacea v. carnosa, patentia, æqualia. *Petala* sæpius majora. *Labellum* cucullatum, columnam involvens, trilobum v. indivisum. *Columna* clavata, elongata, semiteres, marginata, cum labello articulata. *Anthera* carnosa, 4-locularis, septorum marginibus membranaceis. *Pollinia* 4, caudiculis totidem replicatis.—Herbæ *epiphytæ* (*Americanæ*), *pseudo-bulbosæ*. Folia *solitaria vel bina coriacea*. Flores *terminales speciosissimi, sæpe e spatha magna erumpentes*. *Lindl.*

Cattleya *Skinneri*; pseudo-bulbis valde incrassatis oblongis basi attenuatis, foliis binis oblongis obtusis, pedunculo plurifloro, sepalis oblongis,petalis ovato-rotundatis, labello panduriformi obscure trilobo lobis lateralibus convolutis terminali lato brevi retuso disco canaliculato, columna perbrevi.

Cattleya Skinneri. *Batem. Orchid. Mexic. et Guatem. t.* 13. *Lindl. Bot. Reg.* 1840. *Misc. n.* 83.

No colour that we can employ does justice to the brilliant rosy hue of this flower, justly named by Mr. Bateman in compliment to its indefatigable discoverer, Mr. Skinner, who detected it exclusively in the warm parts of Guatemala and along the shores of the Pacific. There it is called "Flor de San Sebastian", and is eagerly sought for, when in season, by the people of the country, to ornament the temples and shrines of their favourite saints. It is described by Mr. Skinner as "inhabiting the hot damp coasts," and as "a plant that will require treatment accordingly. It is always found on very high trees and is most difficult to get at, except after a storm that may have chanced to throw down some of the largest forest trees." Mr. Bateman mentions the plant as producing flowers sometimes much larger than those here represented. We only give them as they appeared with us in June, 1843.

Descr. *Rhizoma* creeping and throwing out fibrous *roots* below, bearing, above, oblong elongated *pseudo-bulbs*, which are compressed, sulcated, attenuated into a terete jointed stalk, and the

flower-bearing ones, at least, sheathed with large membranaceous striated *scales*, above producing two oblong, obtuse, coriaceous and spreading *leaves*, and from between these a *peduncle* with a *raceme* or *corymb* of four or more *flowers*, of a large size and of the most lovely lilac-purple tint imaginable. *Sepals* spreading, oblong, obtuse. *Petals* spreading, broadly ovate, rather acute, plaited or waved at the margin. *Lip* panduriform, obscurely three-lobed, the side lobes convolute over the column, the intermediate one patent, large, retuse, or two-lobed. The colour of the lip is yellowish on the disc, the rest rich rose-purple, with a deep transverse band next the pale disc. *Column* very short. *Anther-case* small. *Pollen-masses* four.

Fig. 1. Front view of lip, the side lobes partially laid open. 2. Pollen-masses.

Tab. 4271.

SCUTELLARIA Ventenatii.

Ventenat's Skull-cap.

Nat. Ord. Labiatæ.—Didynamia Gymnospermia.

Gen. Char. (*Vide supra*, Tab. 4268.)

Scutellaria *Ventenatii*; perennis, herbacea, erecta, ramosa, ubique molliter tenui-pubescens, pilis glandulosis, ramis subteretibus, foliis longe petiolatis crassiusculis cordato-ovatis obtusiusculis grosse serratis penninerviis subreticulatis atro-viridibus, racemis terminalibus elongatis subsecundis (v. subdistichis), bracteis valde deciduis angustis (inf. subovatis), calyce parvo, corollis elongatis (coccineis) calyce multoties longioribus, labio superiore profunde 4-fido.

Scutellaria incarnata. *Vent. Choix des Pl. t.* 29, *lower figure.*

We have here the pleasure to figure a still more beautiful *Scutellaria* than that represented at our Tab. 4268 (*S. incarnata*), to which we there alluded, with far richer coloured flowers, and in other respects a good deal resembling it. Indeed, we have already, in that description, given it as our opinion that Ventenat had confounded this plant with the *incarnata*. They are, however, truly distinct from each other, as indicated by the above characters, and from *S. coccinea*, H.B.K., in the cordato-ovate and serrated (not oblong and entire) leaves. The present species was detected in the mountains near Sta. Martha by Mr. Purdie, and seeds were sent home by him in 1845, which were reared in the summer and autumn of 1846. It has been treated as a Greenhouse plant, but would doubtless flourish and prove highly ornamental to our flower-borders.

Descr. *Root* perennial. *Stem* erect, simple or branched, four-sided. *Leaves* opposite, on rather long *petioles*, cordato-ovate, soft and downy, but of a thickish and rather fleshy texture, reticulately veined, and coarsely serrated. *Racemes* terminal, elongated. *Pedicels* short, the lower ones opposite, the rest alternate. *Bracteæ* deciduous. *Calyx* as in the genus, green, the crest smaller than in *S. incarnata*, downy. *Corolla* deep and bright scarlet, with the *tube* much elongated, slender below,

gradually dilated upwards. *Limb* two-lipped; upper lip fornicate, four-lobed; lower lip of one oval piece. *Stamens* included. *Ovary* on a large fleshy *gynobase*.

Fig. 1. Corolla laid open. 2. Calyx with the pistil. 3. Ovule.

Tab. 4272.

ODONTOGLOSSUM HASTILABIUM.

Halberd-lipped Odontoglossum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Sepala* lateralia patula, libera. *Labellum* planum, unguiculatum, ascendens, limbo reflexo diviso dentato apice angustato, basi concavum crista bilamellata raro fimbriata sæpius antice bidentata auctum. *Columna* elongata, apice auriculata aut aptera. *Lindl.*

Odontoglossum *hastilabium*; foliis oblongis coriaceis, paniculæ ramis spicatis, bracteis cymbiformibus acuminatis ovario æqualibus, sepalis petalisque lineari-lanceolatis acuminatis undulatis, labello apice subrotundo-ovato acuto basi auriculis acutis lanceolatis porrectis aucto lamellis 5 elevatis, columnæ pubescentis alis obsoletis undulatis. *Lindl.*

Odontoglossum hastilabium. *Lindl. in Orchidaceæ Lindenianæ, p.* 16. *ined.*

A truly lovely Orchideous plant, wholly new to our living collections, but known to Dr. Lindley through Linden's specimens of New Grenada. Sent to Kew by our Collector, Mr. Purdie, who gathered it in woods on the route from Santa Martha to the Sierra Nivada. Linden detected it in the province of Pamplona, at an elevation of 2,500 feet. The flowers are numerous on the raceme, large, handsome, elegantly varied with pale green purple and white, and moreover highly fragrant. Our drawing was made from the plant at Syon Gardens, where the species blossomed in August, 1846.

Descr. *Pseudo-bulbs* oblong, compressed, ribbed, pale green, while young sheathed below by the bases of two *leaves*; two other leaves spring from the summit of the pseudo-bulb, these are linear-oblong, obtuse, subcoriaceous, without striæ. *Scape* from an axil of a lower leaf at the base of the pseudo-bulb, a foot and a half or two feet long. *Bracteas* long, membranaceous, lanceolato-subulate, deciduous. *Sepals* and *petals* spreading, uniform, lanceolate, much acuminated, pale green, with copious transverse purple dots or lines. *Lip* large, as long as the perianth, its entire shape broadly hastate; in other words, three-lobed, the two lateral lobes forming two horns at the base, the

intermediate lobe very large, contracted, purple, and crested with irregular lamellæ, then expanded, white, orbicular-ovate, acute. *Column* slender, purple, winged on each side. *Anther-case* hemispherical.

Fig. 1. Column. 2. Base of the lip:—*magnified.*

Tab 4273.

LYONIA Jamaicensis.

Jamaica Lyonia.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. *Calyx* 5-lobus. *Corolla* subglobosa extus pubescens 5-dentata. *Stamina* 10; filam. pubescentibus complanatis, antheris muticis. *Capsula* 5-locularis, 5-valvis, suturis crassis dense conferruminatis per dehiscentiam indivisis et valvulas surnumerarias inter valvulas veras conficientibus. *Semina* numerosa, subulata.—Frutices *borealí-Americani* (*Antillanique*). *De Cand.*

Lyonia *Jamaicensis*; fruticosa lepidota, ramulis angulosis, foliis persistentibus ovato-lanceolatis obtuse subacuminatis obscure serratis coriaceis supra nitidis subtus (siccitate præcipue) reticulatim venosis, floribus axillaribus numerosis fasciculatim subracemosis, corolla ovata, ovariis hirsutis, filamentis basi dilatatis subpubescentibus, antheris acuminatis apice bifidis.

Lyonia Jamaicensis. *Don, Syst. Gard. and Bot. v.* 3. *p.* 832. *De Cand. Prodr. v.* 7. *p.* 600.

Andromeda Jamaicensis. *Sw. Fl. Ind. Occ. v.* 2. p. 838.

Andromeda fasciculata. *Sw. Fl. Ind. Occ. v.* 2. *p.* 836.

From the high mountains of Jamaica, where it was first detected by Swartz, and it has been since sent to us by Dr. M'Fadyen and Mr. Purdie. Mr. Linden finds it in Jamaica, and it is n. 1694 of his collection from that country. It flowers copiously in June and July in a cool frame, and only requires to be kept from frost in the winter. We are indebted for the living plant to Mr. Makoy of Liege. I have ventured to unite the *Andromeda fasciculata* of Swartz with this, for the differences described in the two are no more than are evident on slight varieties of the same plant. The flowers are extremely delicate, semi-transparent, and of a waxy appearance; they are, moreover, fragrant with a honey-like scent.

Descr. A *shrub* of moderate size, with spreading angular green *branches*, more or less clothed, as is every part of the plant, even the pedicels, calyx and corolla, with minute furfuraceous scales, most copious on the very young branches and pedicels, and there giving a ferrugineous downy appearance: less plentiful and eventually deciduous on the upper side of the foliage.

December 1st, 1846.

Leaves alternate, coriaceous, about two inches long, ovato-lanceolate, obscurely serrate, or crenulate, or entire, obtusely acuminated, acute at the base, with a very short *petiole*, above shining, beneath, when dry, reticulated with veins; the margins entire or obscurely and obtusely serrated. The *flowers* are thickly crowded in the axils of the leaves, chiefly from the underside of the spreading branches, but with an inclination upwards. The pedicels appear at first sight to be in fascicles and single-flowered; but, if closely examined, they will be found to be arranged in short *racemes*, each with a small bracteal scale at its base. *Calyx* flat, five-cleft, small, segments obtuse. *Corolla* ovate, white, semi-pellucid, waxy, slightly tinged with green and blush: the mouth contracted, the limb of five short spreading teeth. *Stamens* ten; *filaments* long, flexuose, subulate, slightly pubescent at the base. *Anther* oblong-ovate, bifid at the apex, and opening with a long slit in the bifid points. *Ovary* subglobose, green, hairy. *Style* as long as the corolla, thick. *Stigma* truncate, obscurely five-toothed.

Fig. 1. Flower. 2. Stamens. 3. Pistil:—*magnified.*

Tab. 4274.

ESCALLONIA Organensis.

Organ Mountains Escallonia.

Nat. Ord. Escalloniaceæ.—Pentandria Monogynia.

Gen. Char. Calycis tubus semiglobosus ovario adnatus, *limbus* 5-dentatus 5-lobusve. *Petala* 5 calyci inserta. *Stamina* 5; *antheræ* ovato-oblongæ. *Stylus* filiformis persistens. *Stigma* peltatum, sulco subbilobum. *Capsula* baccata, calycinis lobis styloque coronata, subbilocularis, basi poris irregulariter rumpens dissepimento superne incompleto et ibi placentifero. *Semina* numerosissima scrobiculata.—Arbores fruticesve *ex Amer. austr. ortæ sæpe resinosæ.* Folia *sparsa serrata aut integra.* Flores *subterminales varie dispositi, bracteati, albi v. rosei. De Cand.*

Escallonia *Organensis*; glabra, ramis erectis, foliis oblongis obtusis basi cuneatis breviter petiolatis supra medium serrulatis leviter resinoso-punctatis, paniculis terminalibus multifloris, calycis lobis subulatis, petalis spathulatis.

Escallonia Organensis. *Gardn. Herb. Brazil. n.* 5720. *Hook. Ic. Pl.* 6. *t.* 514. *Var.* β. foliis angustioribus. (Tab. nostr. 4274.)

A lovely shrub, which will probably prove hardy, first detected in the Organ Mountains by Mr. Gardner, and about the same time by Mr. Wm. Lobb, whose seeds, sent to Mr. Veitch of Mount Radford Nursery, Exeter, produced the plant from which this representation is taken. The stem and branches are of a rich red brown, extending to the calyx: the leaves have their mid-rib, in part, and the serrated margins red, and the petals are deep rose-colour. Mr. Lobb's plant has the leaves narrower than in Mr. Gardner's specimens; but that is the only difference between them.

Descr. A *shrub*, in its native mountains, according to Mr. Gardner, from two to four feet high, branched: *branches* erect, angled, leafy. *Leaves* alternate, oblong, copious, erect, somewhat imbricated, narrower in our present plant than in that found by Mr. Gardner, glossy, rigid, dark green above with a red margin, rather obtuse at the point, tapering at the base into a short petiole; *petiole* (in part) and serrated margins red. *Canicle* cymose, terminal, of numerous deep rose-coloured flowers. *Calyx-tube* hemispherical, somewhat angular: the *limb* of five, spreading

or recurved, subulate *lobes*. *Petals* five, spathulate, the claws erect, linear, so closely placed as to form a tube; the *limb* exactly horizontally patent, oval or obovate, obscurely crenate at the margin. *Stamens* cylindrical; *style* nearly equal in height and equal to the claws of the corolla, not protruded beyond the faux. *Filaments* between filiform and subulate; *anthers* oblong. *Stigma* capitate, two-lobed.

Fig. 1. Flower. 2 The same with the petals removed :—*magnified.*

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COMPANION

TO THE

BOTANICAL MAGAZINE.

ADDITIONS TO THE "HORTUS KEWENSIS."

When the collection of plants in the Royal Botanic Gardens of Kew, for a long time perhaps the richest in species of any in Europe, was comparatively stationary, the publication of the "*Hortus Kewensis*" of Mr. Aiton proved a great boon to cultivators in general. The first edition appeared in 1789, and the whole impression was sold off in two years; and we well remember this first edition being so much in demand that a sum of six pounds was offered, and not accepted, for a copy a little previous to the appearance of the second edition. This, again, although the augmentation of species was very considerable, and very valuable aid was given by Mr. Brown, has not yet, in thirty years time, experienced such a sale as to call for a new impression; and the Synopsis of the work met with a still less favourable reception. This arose from no want of merit in the book, but from the vast accession, during late years, of species to our gardens; so that the impression is scarcely in circulation when it is found inadequate to the expectations and wants of the public, who look more for descriptions and remarks upon recently introduced species than those already known in our gardens. The increasing desire also to possess figures of the plants in cultivation, and the number of them that have now appeared, tend in no small degree to lessen the value of such a work as a Garden Flora; so that it is more than probable a new edition will never be called for. It is quite evident, however, that works of plates, laborious and expensive as they are, can never keep pace with the multitudes of plants that are almost of daily introduction, not even with the aid of the valuable monthly chronicle of miscellaneous matter published by Dr. Lindley in the "Botanical Register." Our miscellaneous pages give us an excellent opportunity for noticing, from time to time, many plants, more or less deserving of general cultivation, which have, since the publication of the last edition of the 'Hortus Kewensis,' been received into the

Royal Gardens. We shall thus, we trust, render some service to our readers, and also have the pleasure of recording the names of numerous contributors to the valuable collection possessed in this splendid establishment, together with the date of introduction of new plants, so far as can be ascertained.

1. Platycerium biforme, *Bl.*

Epiphytum, frondibus amplis sterilibus sessilibus distiche patentibus suborbicularibus superne lobatis subtus radicantibus basi inerassatis, fertilibus petiolatis liberis longissime dichotomis pendulis basin versus in laminam latissimam reniformem fructificantibus.

Platycerium biforme, *Bl. Fl. Jav. Fil.* p. 44. tab. 18. *Hook. Gen. Fil.* t. 9. B. Platycerium grande, *J. Sm. Gen. Fil.* Acrostichum grande, *All. Cunn. MSS.* A. fuciforme, *Wall. Cat.* n. 20. A. biforme, *Sw.*

Hab. Malay Islands and tropical parts of the East Indies and New Holland. Introduced 1842, by *J. Bidwill, Esq.*

The first subject we here record, among the many additions to the 'Hortus Kewensis,' is not the least remarkable, being the noblest of all epiphytal *Ferns*, and at the same time one of the most curious. Blume says of it, "Filix omnium facile maxima monstruosa, fronde vasta, dispari. Frons primordialis sessilis, alteram circumvallans, ad nidi ingentis instar caudici vetusto *Arengæ sachariferæ*, ubi versus coronam squamis densis reticulatis vestitur, affixa, frondibus pluribus, tanquam in orbem dispositis, conformata, inferne e centro radicans." Blume's own figure is taken from a small and apparently a dried specimen. That of Capt. Wilks, in the 'Voyage of the United States Exploring Expedition,' vol. ii. p. 181, represents it as cultivated on the branch of a tree in the garden of our venerable friend, Alexander McLeay, Esq., Elizabeth Bay, Sidney, and is very characteristic. Two very fine specimens (but yet inferior to the size which they attain in their native country), were brought by Mr. Bidwill from Moreton Bay, with many other rarities, in 1842. One of them is flourishing in the noble palm-stove at Syon House; the other was liberally presented to the Royal Gardens; where, placed on the perpendicular surface of a broad deal board, and held in that position for some time by means of pack-thread, it soon adhered to the board by the numerous fibrous roots sent out from the lower surface of the primordial fronds, and has grown vigourously in the Orchideous House, though it has not yet produced its fertile fronds, while that at Syon has already exhibited its singular patches of fructification. The sterile fronds may be likened to the two spread flaps of a saddle, (other dead and withered ones lying beneath these); from the sinus between these two, a new frond

breaks out, and with a very rapid growth (six weeks or two months) it extends and reaches beyond one of the above-mentioned flaps: when that has attained its full size, another breaks out from the same point and covers the other flap, and so on. From the same point the *fertile* fronds, more or less petiolated, burst forth and project forward three to four feet and more in length, cut into a number of deep segments or lobes, and bearing near the base, between the segments, a great cordate or reniform spot of fructification, six to eight inches in diameter. There is something peculiarly delicate in the texture and colour of the fronds, which are beautifully veined and so well adapted in form for an ornamental bracket, that artists have been occupied in making drawings of the plant at the Royal Gardens with such an object in view.

Although the New Holland plant has generally borne the name of *Platycerium* or *Acrostichum grande*, yet there cannot, I think, exist a doubt of its being the same with the other supposed species adduced in the above synonymes, and I have consequently here, and in the 'Genera Filicum,' retained the oldest name. Both the sterile and fertile fronds are very variable, so that no two are exactly alike; especially variable is the base of the fertile frond, more or less cuneate where it unites with the petiole, sometimes quite abrupt, and variable in the absence or presence of sterile lobes to the margins of the reniform soriferous portion. Blume speaks of it as growing in Java always on a peculiar Palm. Dr. Wallich describes it as an epiphyte in Singapore. At Moreton Bay, Mr. Allan Cunningham observed it on various timber trees; and at Brisbane river in the forests of *Araucaria Cunninghami*.

2. Platycerium Stemmaria, *Pal. de Beauv.*

Epiphytum, frondibus sterilibus sessilibus imbricatis distichis suborbiculari-reniformibus membranaceis integerrimis rarissime lobatis pubescentibus demum glabris nitidis, fertilibus liberis 2 (rarius 3 vel 4) cuneato-ligulatis nervosis basi in petiolum attenuatis bis dichotomis supra viridibus subtus albido-stellatim tomentosis, laciniis ultimis acuminatis divaricatis, macula fructificante (albido-stellatim tomentosa) bifida in axillam furcaturæ.

Acrostichum Stemmaria, *Pal. Beauv. Fl. D'Ow. et de Benin*, p. 2. t. 2.

Hab. Tropical Western Africa, on trees. Introduced from Sierra Leone about 1839, and presented by *Mr. Loddiges* to Kew.

This has, by many botanists, been considered identical with the *Platycerium alcicorne*; but no one can see them growing without feeling satisfied of their distinctive characters. It is cultivated with us on a piece of board in a moist stove, but is far more difficult to preserve than either of the other species.

3. Manettia uniflora, *H. B. K.*

Hispido-pilosa, caule volubili, ramis teretibus, foliis ovatis acuminatis breviuscule petiolatis, pedunculis diphyllis unifloris, calyce 8-lobo lobis oblongo-ovatis reflexis, corollæ hirsutæ (intense roseæ) tubo subcylindraceo supra basin paululum contracto, limbo 4-lobo patente, fauce villosa, staminum filamentis supra basin insertis villosis inclusis, stylo exserto glabro.—*H. B. K. Nov. Gen. Am.* vol. iii. p. 387.

Hab. New Andalusia; *Humboldt.* Santa Martha; introduced, in 1844, by *Mr. W. Purdie.*

This pretty climber was received at the Royal Gardens of Kew from our collector, Mr. Purdie. It is extremely different from any species of *Manettia* hitherto in cultivation, and appears to be identical with the *M. uniflora* of H.B.K. The whole plant is hirsute, almost hispid, even the corolla, on the outside. It flowers copiously from September to Christmas, at which season it seems to be in perfection and will probably continue so for some time; the corollas, of rather a deep red rose-colour at first, become very pale before falling off.

4. Passiflora difformis, *H. B. K.*

Volubilis, foliis peltatis bilobis (vel trilobis lobo medio brevissimo obsoleto) lobis divaricatissimis ovato-acuminatis glabris integerrimis binerviis subtus remote parce ocellatis, petiolo infra medium biglanduloso pedunculis 1–3-floris, flore parvo ebracteato, calyce (viridi) 5-lobo, corona duplici, int. e filamentis pluri-serialibus brevibus erectis atro-fuscis, ext. e filamentis simplici serie patentibus subclavatis, parte inferiori fusco-brunnea reliqua viridi.—*H. B. K. Nov. Gen. Am.* vol. iii. p. 136.

Hab. New Grenada, Quindiu; *Humboldt.* Santa Martha; introduced, in 1844, by *Mr. W. Purdie.*

A very distinctly marked and singular species of Passion-flower, with small, green and black flowers, and leaves of two (scarcely three) horizontally divergent acuminated lobes; very near, as Humboldt and Kunth remark, to *P. coriacea* (Juss. in Ann. Mus. t. 6. p. 108. t. 34. f. 2.), and probably only a variety. It is easily cultivated in the stove, trained to a balloon-trellice, and flowers during the autumn and winter months. From the shape of the leaves this might not unaptly be called the *Bat's-wing Passion-flower.*

5. Pistia Stratiotes, *L.*

Pistia occidentalis, *Bl. Kunth.*

Hab. Tropical and subtropical countries, throughout the world apparently. Introduced from Jamaica to Kew, by *Mr. W. Purdie*, in 1843.

We have spoken of the *Platycerium biforme* as among the most remarkable of epiphytal plants, and with equal justice the present

may be reckoned among the most remarkable of aquatic plants. As is well known to botanists, it belongs to a group of *Aroideæ*, among which its nearest affinity is with the *Lemnæ*, or *Duckweeds* of our ponds and ditches, and like them it lives in floating masses upon the surface of water, and without any attachment to soil, in tropical countries; but, instead of being, as our species of *Lemna*, almost microscopic objects, each plant is a span or more across, and Roxburgh likens the general appearance to a Lettuce; the leaves, however, are of a handsome form and far more beautiful texture, strongly marked with nearly parallel nerves, prominent on the under side. Kunth (following other authors), has enumerated no less than seven species of *Stratiotes*; but, I fear, without sufficient grounds of distinction, further than what may be afforded by difference of country. Assuredly our plant from the West Indies (*P. occidentalis*, Bl. and Kunth), affords no distinguishing marks from the East Indian species (*P. Stratiotes*, L.), figured by Dr. Roxburgh; but on this subject we shall have an opportunity of enlarging when we come to figure our plant; for it has already produced its curious flowers and a drawing of it is taken. We shall merely further observe here that no stove aquarium ought to be without this plant. It is indeed in a dormant state, small and shrivelled in the winter; but, as spring advances, it grows rapidly and soon occupies a great space of surface with its elegant floating masses of foliage.

6. Artemisia lactiflora, *Wall.*

Caule erecto herbaceo angulato-sulcato, foliis stipulatis inferioribus amplis (spithamæis et ultra) pinnatis, lobis rhombeo-ovatis remotis incisis, terminali magno 3–5-lobo lobis obovato-cuneatis inæqualiter inciso-lobatis, superioribus 3–5-lobatis (vix pinnatis), capitulis in ramos elongatos graciles basi foliosos interrupte spicatis, involucris scariosis nitidis.—*Wall. Cat. Compos.* n. 414. *De Cand. Prodr.* vol. vi. p. 115.

Hab. China; whence it was introduced by *Mr. Reeves* to the Botanic Garden, Calcutta; and by *Dr. Wallich* to the Kew Gardens in 1828.

A very distinct species of *Wormwood*; with little beauty to recommend its general cultivation. It proves hardy in an open border in front of a stove, sending up its herbaceous and purple stems, about two feet in height during summer, flowering in the autumn, and dying down in the winter. The stem-leaves, below the flowering branches, are truly pinnated (though not so described by Dr. Wallich), the lobes broad, and very distant.

7. Polygonum (Helxine, *Br.*) complexum.

Caule flexuoso anguloso fruticoso siccitate subangulato, ramis divarica-

tis intricatis, foliis suborbiculari-reniformibus subcarnosis marginatis integerrimis petiolo subæquilongis, ochreis parvis cylindraceis truncatis, racemis axillaribus ochreato-bracteatis, floribus polygamis, perianthiis urceolatis pedicellisque pellucidis, tubo carne pulposo farcto, laciniis ellipticis demum submembranaceis basi intus tuberculosis.—*All. Cun. Fl. Nov. Zel. in Ann. Nat. Hist.* vol. i. p. 455. *Fl.* Dec.

Hab. Northern Island of New Zealand, forming dense bushes about the Bay of Islands; *All. Cunningham.* Introduced, in 1842, by the *Rev. W. Colenso.*

This species is well named *P. complexum* by Mr. Cunningham. That zealous botanist, however, does not notice the singularly fleshy, waxy and pellucid nature of the pedicel and perianth; of the latter, the lower half or the tubular portion is filled with watery pulp, which forms the receptacle upon which the stamens and pistil are, as it were, raised and brought to the mouth of the flower. In the few blossoms that have yet appeared, the stamens, six in number, appear to be imperfect: the ovary or nearly ripe fruit is narrow-ovate, triangular, crowned with three small club-shaped styles.—This, with some other allied species from various countries, constitutes the genus *Muhlenbeckia* of Meisner (*Thysanella* of Asa Gray): but as far as my observations have gone, the character scarcely holds good; and if separated from *Polygonum*, surely Mr. Brown's name of '*Helxine*' given to the section ought to be preserved. It seems almost to unite *Coccoloba* with *Polygonum.*

8. Tetranthera Japonica, *Spr.*

Laciniis perianthii petaloideis ovato-lanceolatis, foliis oblongis marginatis supra glabris subtus incano-tomentosis crasse venosis, umbellulis axillaribus aggregatis brevipedunculatis. *Nees von Esenb. Syst. Laurin. p.* 524.

Litsæa Japonica, *Juss.* Tomex Japonica, *Thunb. Fl. Jap. p.* 190.

Hab. Japan, *Thunberg, Siebold.* Introduced, we believe, by *Sieber*, into Holland, and thence (through *Mr. Makoy* of Liège) to the Royal Gardens of Kew, in 1843.—*Fl.* Dec.

A very desirable low greenhouse shrub, having copious, handsome, coriaceous foliage, bright deep glossy green above, very downy and ferrugineous beneath, with prominent veins. The involucres and flowers are clothed with shining silky hairs, those of the outer scales rusty-coloured.

AN ENUMERATION OF FERNS CULTIVATED IN THE ROYAL GARDENS AT KEW, IN DECEMBER 1845; WITH CHARACTERS AND OBSERVATIONS ON SOME OF THE GENERA AND SPECIES; BY W. J. SMITH, CURATOR.

Division I. POLYPODIACEÆ, *R. Br.*

Tribe I. POLYPODIEÆ, *J. Sm.**

Section I. ORTHOPHLEBIEÆ, *J. Sm.*

1. GRAMMITIS, *Linn.*; *J. Sm.*

1. G. australis, *R. Br.*
   HAB. New Holland. Introduced 1833, by *R. Cunningham.*

2. POLYPODIUM, *Linn.*; *J. Sm.*

* *Fronds in vernation lateral, articulated on the creeping rhizoma.*

1. P. aspleniifolium, *Linn.*; *Hort. Kew.*
2. P. pectinatum, *Linn.*; *Hort. Kew.*
3. P. Paradiseæ, *Lang. et Fisch. Ic. Fil.* t. 11.
   HAB. Brazil. Received in 1841, from the Royal Botanic Garden of Berlin.
4. P. vulgare, *Linn.*; *Hort. Kew.*
   β, Cambricum, *Linn.*; *Hort. Kew.*
5. P. subpetiolatum, *Hook. Ic. Plant.* tab. 391.
   HAB. Mexico. Received in 1845, from *Mr. D. Cameron.*

** *Fronds in vernation lateral, adherent to the creeping rhizoma.*

6. P. Phegopteris, *Linn.*; *Hort. Kew.*
7. P. Dryopteris, *Linn.*; *Hort. Kew.*
8. P. calcareum, *Sm.*; *Hort. Kew.*

*** *Fronds in vernation terminal, adherent, forming a cæspitose or short creeping rhizoma.*

9. P. divergens, *Willd.* P. multifidum, *Jacq. Ic. Rar.* t. 643.
   HAB. West Indies and warm parts of South America. Received in 1841 from the Royal Botanic Garden of Berlin.

* J. Smith on the Genera of Ferns, in *Hook. Journ. Bot. vol.* 4. *p.* 38.

10. P. effusum, *Sm.*; *Hort. Kew.*
11. P. alpestre, *Spreng.* Aspidium? alpestre, *Hoppe. Schk. Crypt.* t. 60. p. 58. (excluding syn. *Linn.* and *Sm.*)
HAB. Switzerland. Cultivated at Kew since 1823.

OBS. *Polypodium Rhæticum* of Linnæus is cited by Schkuhr as synonymous with this species, but this is an error, for, on examining the Linnæan specimen, I find it to be, as already stated by Sir James Smith, only a fragment of an imperfect or young state of *Asplenium filix-fœmina*; consequently *Polypodium Rhæticum* can no longer be retained as a species.

**** *Fronds in vernation terminal, adherent, forming an erect, caudiciform rhizoma.*

12. P. lachnopodium, *nov. spec.*; fronds deltoid bi-tripinnatifid, rachis and midrib paleaceous, pinnules lanceolato-acuminate, segments oblong-linear obtuse villous, the lower ones distant and pinnatifid, the superior ones dentate and becoming entire towards the apex, veins pinnately forked, sori medial uniserial.

HAB. Jamaica. Introduced by *Mr. William Purdie*, in 1843. Stipes densely furnished at the base with long, criniform, brown paleæ. Fronds, including the stipes, three feet or more in length, pinnæ one foot; pinnules two to four inches, petiolate, the upper ones sessile.

3. HYPOLEPIS, *Bernh.*; *J. Sm.*

1. H. rugulosa, *J. Sm.* Polypodium rugulosum, *Labill. Nov. Holl.* vol. ii. t. 241.
HAB. Van Diemen's Land. Introduced in 1844, by *R. Gunn, Esq.*
2. H. repens, *Presl.* Lonchites repens, *Linn.*; *Plum. Fil.* t. 12. Cheilanthes repens, *Kaulf.*
HAB. West Indies. Raised in 1828.
3. H. aculeata, *J. Sm.* Cheilanthes aculeata, *Kaulf.*
HAB. Jamaica and other West India Islands. Received in 1841 from the Royal Botanic Garden of Berlin.

OBS. This genus has hitherto been placed in the tribe *Pterideæ*, but the habit of the species on which the genus is founded, so much at variance with the whole of *Pterideæ*, has induced me to reconsider the affinities. I have already (Gen. Fil.) noticed the similarity in habit to some large, decompound-fronded species of *Polypodium*, differing from them only in the soriferous crenules being altered and reflexed, forming a lateral indusium with the sporangia in its axis. It now appears to me that the reflexed crenule cannot be considered otherwise than analogous to the reflexed and changed margin of *Struthiopteris* and

Allosorus; and, as I possess specimens, which I have hitherto kept as species of *Polypodium*, but which I find difficult to characterize as different from *Hypolepis repens*, except in the sori not being quite at the margin, and therefore the crenules not so evidently indusiiform, I do not hesitate in removing *Hypolepis* from *Pteridieæ*, and placing it in *Polypodieæ*, the species differing from *Polypodium* chiefly by the peculiar elongated rhizoma and (in most cases) by the evident reflexed crenules.

4. Struthiopteris, *Willd.*

1. S. Germanica, *Willd.* Onoclea Struthiopteris, *Hort. Kew.*
2. S. Pennsylvanica, *Willd.*

Hab. North America. Cultivated in 1823.

5. Allosorus, *Bernh.*

1. A. crispus, *Bernh.* Pteris crispa, *L.*; *Hort. Kew.* Cryptogramma, *R. Br.*

6. Notholæna, *R. Br.*

1. N. tenera, *Gill.*; *Hook. Bot. Mag.* t. 3055.
   Hab. Chili. Received from *Mr. D. Cameron* in 1842.
2. N. nivea, *Desv.* Pteris nivea, *Sw. Syn. fil.* t. 1. f. 2. N. incana, *Presl, Reliq. Haenck.* t. 1. f. 2.
   Hab. Chili, Mexico, and Peru. Received in 1844 from *J. Riley, Esq.*
3. N. trichomanoides, *R. Br.* Pteris trichomanoides, *Linn.*; *Schk. Crypt.* t. 99.
   Hab. Jamaica. Received from the Royal Botanic Garden of Berlin in 1844.
4. N. rufa, *Presl.*
   Hab. Mexico, and other parts of South America. Received in 1841 from the Royal Botanic Garden of Berlin.
5. N. lanuginosa, *Desv.* Acrostichum velleum, *Hort. Kew.*
6. N. vestita, *J. Sm.* Cheilanthes vestita, *Sm.*; *Schk. Crypt.* t. 124.
   Hab. North America. Received in 1841 from the Royal Botanic Garden of Berlin.
7. N. tomentosa, *Desv.*
   Hab. Mexico. Received in 1841 from the Royal Botanic Garden of Berlin.
8. N. sinuata, *Kaulf.* Acrostichum sinuatum, *Sm.*
   Hab. Mexico. Received in 1841 from the *Messrs. Loddiges.*
9. N. Marantæ, *R. Br.* Acrostichum Marantæ, *Schk. Crypt.* t. 4.
   Hab. South of Europe and Madeira. Received in 1843 from *Dr. Welwitsch.*
10. N. Eckloniana, *Kunze in Linnæa,* vol. x. p. 501. *Link. En. Fil. Hort. Berol.* p. 146.
    Hab. Cape of Good Hope. Received in 1843 from *Mr. D. Cameron.*

11. N. distans, *R. Br.*
Hab. New Holland. Raised in 1836.
12. N. lendigera, *J. Sm.* Cheilanthes lendigera, *Sm.*
Hab. Mexico and other parts of S. America. Cultivated in 1823.

7. Gymnogramma, *Desv.*

1. G. rufa, *Desv.* Hemionitis rufa, *Sm.*; *Hort. Kew.*
2. G. tomentosa, *Desv.* Hemionitis tomentosa, *Rudd. Fil. Bras.* t. 19.
Hab. West Indies, Brazil. Received from the *Messrs. Loddiges* in 1841.
3. G. calomelanos, *Kaulf.* Acrostichum calomelanos, *Linn.*; *Hort. Kew.*
4. G. tartarea, *Desv.*
Hab. Warm parts of America. Raised in 1828.
5. G. Peruviana, *Desv.*
Hab. Peru. Raised in 1830.
6. G. chrysophylla, *Kaulf.*; *Plum. fil.* t. 44.
Hab. West Indies and South America. Raised in 1836.
7. G. sulphurea, *Desv.*; *Schk. Crypt.* t. 4.
Hab. Jamaica. Received from *Mr. D. Cameron* in 1841.
8. G. leptophylla, *Desv.*; *Hook. et Grev. Ic. Fil.* t. 25.
Hab. South of Europe, Madeira. Raised in 1838.
9. G. chærophylla, *Desv.*; *Hook. et Grev. Ic. Fil.* t. 45.
Hab. West Indies and warm parts of South America. Raised in 1836.

Obs. The various forms presented by the *Ceropteris* group of *Gymnogramma*, render it very difficult to determine them as distinct species. They are very generally distributed over the warm parts of America, and almost every locality presents forms somewhat different, such as the pinnules being more or less entire or divided, and in the teeth or serratures being more or less obtuse or acute, so also the farina, which characterizes this group, has different shades of colour even in forms that may be considered as belonging to one species. It has been stated that in cultivation hybrids have been raised, but of this I have no proof, and as I possess native specimens of forms said to be hybrids, I cannot be persuaded that such have been produced in gardens.

8. Leptogramma, *J. Sm.*

1. L. villosa, *J. Sm.* Gymnogramma villosa, *Link.*
Hab. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.

Section II. Symplophlebieæ, *J. Sm*

9. Meniscium, *Schreb.*

1. M. reticulatum, *Willd.*; *Hort. Kew.*
2. M. palustre, *Radd. Fil. Bras.* t. 20.
   Hab. Brazil. Received from the *Messrs. Loddiges* in 1837.

10. Goniopteris, *Presl.*; *J. Sm.*

1. G. fraxinifolia, *Presl.*; *Jacqu.* Polypodium proliferum, *Kaulf.* P. viviparum, *Radd. Fil. Bras.* t. 32.
   Hab. Brazil. Received in 1841 from *Mr. D. Cameron.*
2. G. asplenioides, *Presl.*; *Sw.*; *Sloan. Jam. Hist.* vol. i. t. 43. f. 2.
   Hab. Jamaica. Received from the *Messrs. Loddiges* in 1841.
3. G. crenata, *Presl.*; *Sw.*; *Plum. Fil.* t. 111.
   Hab. West Indies. Raised in 1835.
4. G. megalodes, *J. Sm.*; *Schk. Crypt.* t. 19. *b.*
   Hab. West Indies. Introduced in 1843 by *Mr. W. Purdie.*
5. G. tetragona, *Presl.*; *Sw.*; *Schk. Crypt.* t. 18. *b.*
   Hab. West Indies. Received from the Royal Botanic Garden of Berlin in 1841.
6. G. pennigera, *Presl.*; *Forst.*
   Hab. New Zealand. Raised in 1835.

11. Goniophlebium, *Presl.*; *J. Sm.*

(Polypodii sp. *Auct.*)

1. G. vacciniifolium, *J. Sm.*; *Lang. et Fisch. Ic. Fil.* t. 7.
   Hab. Brazil. Received from *Mr. D. Cameron* in 1841.
2. G. piloselloides, *J. Sm.*; *Linn.*; *Sw.*; *Hort. Kew.*; *Hook. et Bauer, Gen. Fil. t.* 51.
3. G. incanum, *J. Sm.*; *Schk. Crypt.* t. 11. *b.*
   Hab. West Indies and many parts of America. Received from *Messrs. Loddiges* in 1841.
4. G. sepultum, *J. Sm.*; *Kaulf.* Polypodium hirsutissimum, *Radd. Fil. Bras.* t. 26. Acrostichum lepidopteris, *Lang. et Fisch. Ic. Fil.* t. 2.
   Hab. Brazil and other parts of America. Introduced by *Mr. Gardner,* in 1841.
5. G. argutum, *J. Sm.*; *Wall.*
   Hab. Nepaul. Received from the *Messrs. Loddiges* in 1845.
6. G. Catharinæ, *J. Sm.*; *Lang. et Fisch. Ic. Fil.* t. 9.
   Hab. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.
7. G. harpeodes, *J. Sm.*; *Link. En. Fil. Hort. Berol.*
   Hab. Brazil. Received in 1841 from the Royal Botanic Garden of Berlin.

8. G. latipes, *J. Sm.*; *Lang. et Fisch. Ic. Fil.* t. 10.
   Hab. Brazil. Received from the *Messrs. Loddiges* in 1841.
9. G. menisciifolium, *J. Sm.*; *Lang. et Fisch. Ic. Fil.* t. 15. P. longifolium, *Presl.*
   Hab. Brazil. Received in 1841 from *Mr. H. Shepherd.*
10. G. albopunctatum, *J. Sm.*; *Radd. Fil. Bras.* t. 30.
    Hab. Brazil. Received in 1842 from *Mr. Henderson.*

12. Niphobolus, *Kaulf.*

(Polypodii sp. *Sm.*)

1. N. rupestris, *Spreng.*; *Hook. et Grev. Ic. Fil.* t. 93.
   Hab. New Holland. Introduced by *Mr. A. Cunningham* in 1823.
2. N. pertusus, *Spreng.*; *Hook. Ex. Fl.* t. 162.
   Hab. East Indies. Cultivated in 1823.
3. N. Lingua, *Spreng.*; *Sm.*; *Thunb. Fl. Jap.* t. 33. N. Chinensis, *Link.* N. albicans, *Blume*?
   Hab. Japan and China. Received in 1830 from *Messrs. Loddiges.*
4. N. varius, *Kaulf.*
   Hab. Malayan Islands. Received from *Mr. H. Lowe* in 1845.
5. N. costatus, *Presl.*; *Wall.*
   Hab. Ceylon and other parts of the East Indies. Introduced by *Mr. Moon* in 1824.

13. Cyrtophlebium, *R. Br.*

(Polypodii sp. *Auct.* Campyloneurum, *Presl.*)

1. C. angustifolium, *J. Sm.*; *Sw.* Polypodium dimorphum, *Link.*
   Hab. Jamaica. Received in 1841 from the Royal Botanic Garden of Berlin.
2. C. Phyllitidis, *J. Sm.*; *Hort. Kew.*
3. C. repens, *J. Sm.*; *Sw.*; *Plum. Fil.* t. 134.
   Hab. Jamaica. Received in 1841 from the Royal Botanic Garden of Berlin.
4. C. nitidum, *J. Sm.*; *Kaulf.*
   Hab. West Indies. Introduced by *Mr. W. Morrison* in 1828.
5. C. decurrens, *J. Sm.*; *Radd. Fil. Bras.* t. 33.
   Hab. Brazil. Received in 1841 from the Royal Botanic Garden of Berlin.

14. Phlebodium, *R. Br.*; *J. Sm.*

(Polypodii sp. *Auct.* Pleopeltis, *Presl.*)

Anapeltis, *J. Sm.*

1. P. lycopodioides, *J. Sm.*; *Linn. ex fig. Plum.* t. 119; *Hort. Kew. ex fig. Schk. Crypt.* Polypodium glabellum, *Hew. in Mag. Nat. Hist.*
   Hab. Jamaica. Received from *Mr. D. Cameron* in 1821.

2. P. squamulosum, *J. Sm.*; *Kaulf.*
HAB. Brazil. Received from *J. Riley, Esq.*, in 1843.

3. P. nitidum, *n. sp.*; fronds (sterile 3–4 inches long) oblong-elliptical, the apex obtuse and rounded, acute at the base, forming a short stipes which is articulated to the creeping paleaceous rhizoma, venation obscure, sori ——.
HAB. Honduras. Introduced in 1844 by *Mrs. Col. Macdonald.*

OBS. This is apparently an undescribed species, closely allied to *P. squamulosum*, Kaulf., but differing in the larger size, obscure venation, and absence of scales on the mid-rib. I have not seen the sori and possess no native specimen in my herbarium.

** Pleopeltis, *J. Sm.*

4. P. percussum, *J. Sm.*; *Cav.* Pleopeltis percussa, *Presl.*; *Hook. et Grev. Ic. Fil.* t. 67.
HAB. Brazil, Peru, and other parts of America. Received in 1842 from *Mr. Henderson.*

5. P. elongatum, *J. Sm.* Grammitis elongata, *Sw.* Grammitis lanceolata, *Schk. Crypt.* t. 7.
HAB. Jamaica and other West India islands. Introduced by *Mr. Nath. Wilson* in 1843.

*** Phlebodia vera.

6. P. aureum, *R. Br.*; *Linn.*; *Hort. Kew.*

7. P. pulvinatum, *J. Sm.*; *Link.*
HAB. Brazil. Received in 1841 from the Royal Botanic Garden of of Berlin.

8. P. sporodocarpum, *J. Sm.*; *Willd.*; *Link.* Polypodium glaucum, *Hort.*
HAB. Mexico. Received in 1843 from *Mr. D. Cameron.*

OBS. Although under cultivation these three preceding species maintain pretty distinct appearances, yet I have doubts whether they, and *Polypodium areolatum*, Willd., should not be considered rather varieties of *P. aureum*, differing chiefly in the fronds being more or less glaucous: a character depending greatly on the place of growth.

9. P. decumanum, *J. Sm.*; *Willd.*
HAB. Brazil, Jamaica, and other places of South America. Received in 1841 from *Mr. D. Cameron.*

15. DRYNARIA, *Bory*; *R. Br.*; *J. Sm.*

(Polypodii sp. *Auct.* Phymatodes, *Presl.*)

* Lepisorus, *J. Sm.*

Fronds simple, smooth; venation immersed; sori round, transversely uniserial, each furnished with numerous special peltate scales.

1. D. sesquipedalis, *J. Sm.*; *Wall.* Pleopeltis nuda, *Hook. Ex. Flora.* t. 63. *Hook. et Bauer, Gen. Fil.* t. 18.
HAB. Nepal. Introduced by *Dr. Wallich* in 1828.

** Phymatodes, *J. Sm.*

Fronds simple, pinnatifid or pinnate; venation immersed. Sori round, sometimes oblong, or (by confluence) linear, often immersed and forming tubercles on the superior side of the frond, transversely uniserial or rarely irregularly biserial, destitute of scales.

2. D. iteophylla, *J. Sm.*; *Link.*
HAB. Brazil. Received in 1841 from the Royal Botanic Garden of Berlin.

3. D. vulgaris, *J. Sm.* Polypodium phymatodes, *Linn.*; *Sw.*; *Schk. Crypt.* t. 8 *d.* t. 9. *Jacq. Ic. Rar.* t. 637.
HAB. Mauritius, East Indian and Malayan Islands. Received from the Royal Botanic Garden of Berlin in 1835.

4. D. longipes, *J. Sm.*; *Link.*
HAB. East Indies. Cultivated in 1823.

OBS. The lengthened stipes and large sori distinguish this species from the preceding, and although it maintains its character under cultivation, still it may be considered as one of the many forms assumed by *D. vulgaris.*

5. D. Billardieri, *J. Sm.*; *R. Br.* Polypodium scandens, *Labill. Nov. Holl.* t. 240.
HAB. New Holland, Van Diemen's Land and New Zealand. Introduced in 1824 by *Mr. A. Cunningham.*

OBS. Difficult to be described by words as distinct from *D. vulgare*, but in cultivation having its own peculiar aspect.

6. D. pustulata, *J. Sm.*; *Forst.*; *Schk. Crypt.* t. 10. Polypodium scandens, *Forst.*; *Schk. Crypt.* t. 8. Polypodium cæspitosum, *Link. ex Hort. Loddiges.*
HAB. New Zealand. Introduced by *Mr. A. Cunningham* in 1826.

OBS. In cultivation this species has hitherto been observed to produce a dense, cæspitose mass of simple, slightly undulated, sterile fronds only, and it was not till lately that I observed it producing pinnatifid fronds, which, on viewing both forms, I at once recognized to be the same as my specimen of *Polypodium pustulatum* from New Zealand.

7. D. leiorhiza, *J. Sm.*; *Wall.* P. cuspidatum, *D. Don, Fl. Nep.*
HAB. Nepal. Received in 1844 from *John Christie, Esq.*

8. D. capitellata, *J. Sm.*; *Wall.* P. juglandifolium, *D. Don, Fl. Nep.*
HAB. East Indies. Introduced in 1843 by *Dr. Wallich.*

*** Phyllitidis, *J. Sm.*

Fronds simple, entire, linear-lanceolate or rarely sinuate or cordate, venation elevated, rarely immersed. Sori round, oblong, or (by confluence) linear, superficial, obliquely uniserial or biserial, rarely numerous and irregular.

9. D. crassifolia, *J. Sm.*; *Linn.*; *Sw.*; *Plum. Fil.* t. 123. Anaxetum crassifolium, *Schott. Gen. Fil.* t. 1.

HAB. West Indies, Brazil, and Peru. Cultivated in 1823.

10. D. hemionitidea, *J. Sm.*; *Wall.* P. membranaceum, *D. Don, Fl. Nep.* Hemionitis plantaginea, *D. Don, Fl. Nep.*

HAB. East Indies. Received in 1844 from *Mrs. Lawrence* of Ealing Park.

11. D. irioides, *J. Sm.*; *R. Br.*; *Hook. et Grev. Ic. Fil.* t. 125. P. polycephalum, *Wall.* Microsorum irregulare, *Link.*

HAB. Mauritius, East Indies, and New Holland. Introduced by *Mr. A. Cunningham* in 1824.

**** Drynariæ veræ, *Bory.*

Fronds rigid, of two forms, the sterile oblong-cordate, sinuose or laciniated, sessile, the vascular structure rigid and permanent, fertile fronds 2–3 feet or more in length, sessile or stipitate, pinnatifid or pinnate, the segments articulated with the rachis. Sori round, obliquely uniserial or biserial, or transversely uniserial.

12. D. quercifolia, *Bory*; *Linn.*; *Schk. Crypt.* t. 13.

HAB. Tropics of the eastern hemisphere. Introduced in 1840 by *Dr. Wallich.*

OBS. Like *D. vulgare*, the different localities of this species have their own peculiar forms, such as difference in texture, more or less deeply laciniated fronds, some being sessile, others with a long stipes, the margin being entire or in some slightly dentate; but, although some are strikingly different, still I hesitate in pronouncing them distinct species.

Notwithstanding the species comprehended under this last section of *Drynaria* are all characterized under one head, in having compound anastomose venation with compital sori, yet I am of opinion that if the various forms of the venation, together with some other peculiarities of structure, could be distinctly expressed in words, it would be desirable to consider each section as a separate genus. I am led to this conclusion by observing the well-marked differences in habit and general appearance of the species of each section, and, in a general revision of the characters of the genera of Ferns, I would be induced to pay more attention to the differences in the general habits than I have hitherto done; for instance, the formation of the rhizoma and manner of attachment or venation of the fronds, present some important characters which would much assist in determining the limits and affinities of groups.

16. Dictymia. *J. Sm.*

(Polypodii sp., *R. Br.* Dictyopteridis sp., *Presl.*; *J. Sm.*)

Venation uniform, internal, reticulated. Sporangia compital. Receptacle immersed. Sori oblong, large, transversely uniserial.—Rhizoma creeping. Vernation of the fronds lateral, articulated. Fronds linear-lanceolate, smooth, coriaceous.

1. D. attenuata, *J. Sm.*; *R. Br.*
   Hab. New Holland. Introduced in 1828 by *Mr. A. Cunningham.*

Obs. The very great differenee in habit of this and another species (from New Zealand) from the other species of *Dictyopteris* of Presl., has induced me to separate them; the three known species which I retain under *Dictyopteris* differ from *Dictymia* in having large compound bipinnate or tripinnatifid fronds, with the sori numerous and irregularly disposed, and although I have not had the opportunity of examining their rhizoma, yet, judging from analogy and the structure of the stipes, I have every reason to believe that the vernation of the fronds is not articulated with the rhizoma as in *Dictymia.*

17. Drymoglossum, *Presl.*; *J. Sm.*

(Pteridis sp., *Linn.*; *Sw.*)

1. D. piloselloides, *Presl.*; *Sw. Syn. Fil.* t. 2. f. 2.
   Hab. East Indies and Malayan Islands. Introduced in 1828 by *Dr. Wallich.*

2. D. lanceolatum, *J. Sm.*; *Linn.*; *Plum. Fil.* t. 132.
   Hab. Jamaica. Introduced in 1843 by *Mr. Wm. Purdie.*

18. Tæniopsis, *J. Sm.*

(Vittariæ sp., *Auth.*)

1. T. lineata, *J. Sm.*; *Sw.*; *Hort. Kew.*

19. Antrophyum, *Kaulf.*

1. A. lanceolatum, *Kaulf.* Hemionitis, *Linn.*; *Hort. Kew.*

20. Ceratopteris, *Brong.*

(Pteridis sp., *Sw.*)

1. C. thalictroides, *Brong.*; *Hook. et Bauer, Gen. Fil.* t. 12. Ellobocarpus oleraceus, *Kaulf.*
   Hab. Tropics of both hemispheres. Raised in 1834.

2. C. Parkeri, *J. Sm.* Parkeria pterioides, *Hook. et Grev. Ic. Fil.* t. 97. *Hook. et Bauer, Gen. Fil.* t. 50.
HAB. Demerara. Received from *Mr. H. Shepherd.*

Tribe II. ACROSTICHEÆ, *J. Sm.*

Section II. ORTHOPHLEBIEÆ, *J. Sm.*

21. ELAPHOGLOSSUM, *Schott.*

(Acrostichi sp., *Auct.*)

1. E. simplex, *Schott; Sw.; Hort. Kew.*
2. E. conforme, *Schott; Sw.; Blume Fl. Jav.* t. 5.
HAB. Cape of Good Hope. Received from *Mr. D. Cameron* in 1841.
3. E. callæfolium, *J. Sm.; Blume Fl. Jav.* t. 4.
HAB. Java. Received from the Royal Botanic Garden of Berlin in 1841.
4. E. longifolium, *J. Sm.; Sw.; Plum. Fil.* t. 134.
HAB. West Indies. Received in 1841 from *Mr. D. Cameron.*
5. E. scolopendrifolium, *J. Sm.; Radd. Bras. Fil.* t. 16.
HAB. Brazil. Received from the *Messrs. Loddiges* in 1841.
6. E. villosum, *J. Sm.; Sw.; Hook. et Grev. Ic. Fil.* t. 95.
HAB. Jamaica. Introduced in 1843 by *Mr. Nath. Wilson.*

22. STENOCHLAENA, *J. Sm.*

(Acrostichi sp., *Linn.; Sw.*)

1. S. scandens, *J. Sm.; Linn.; Sw.; Schk. Crypt.* t. 106, 107.
HAB. East Indian and Malayan Islands. Received in 1841 from the Royal Botanic Garden of Berlin.

23. POLYBOTRYA, *Humb.*

1. P. cylindrica, *Kaulf.*
HAB. Jamaica. Introduced in 1843 by *Mr. Nath. Wilson.*

Section II. SYMPLOPHLEBIEÆ, *J. Sm.*

24. OLFERSIA, *Radd.*

1. O. cervina, *Presl.* Polybotrya cervina, *Hook. et Grev. Ic. Fil.* t. 81.
HAB. West Indies. Received in 1841 from the *Messrs. Loddiges.*

25. Aretium, *Splitgerber.*

(Acrostichi § Aretium, *Kunze.*)

Venation uniform, reticulated, areoles elongated, trapezoid or hexagonal. Sporangia few, irregularly disposed over the under side of the frond, often collected in small groups or lines.—Rhizoma creeping, elongated, fibrose, and furnished with lanceolate reticulated shining scales. Fronds in vernation lateral, articulated with the rhizoma, distant, uniform, oblong-elliptical, 6–10 *inches long, smooth.*

1. A. citrifolium, *Splitgerber, Enum. Fil. Surinam,* p. 7. Acrostichum citrifolium, *Linn.; J. Sm. Gen. Fil.*
   Hab. West Indies, Introduced by *Mr. W. Purdie.*

Obs. In my remarks on the genus *Acrostichum*, in the 4th volume of the 'Journal of Botany', I have noticed the peculiarity of this fern. At that time I hesitated as to the propriety of separating it from the species with which I associated it; since then I have had an opportunity of examining it in a living state and I have also become possessed of more perfect specimens, the examination of which has led me to follow Splitgerber in abopting Kunze's sectional name "*Aretium*" for a separate genus. Having so done, I am further induced to consider *Acrostichum crinitum* as the type of another genus, leaving *Acrostichum aureum* as the representative of the true *Acrosticha*. The most obvious distinction between the two latter is the habit, and this is also the case with *Aretium*, which is further distinguished by its few and scattered sporangia, a character not common to any other of the *Acrostichæ* that I am acquainted with. In aspect and venation *Aretium* approaches *Antrophyum*, but is readily distinguished by its creeping elongated rhizoma; that of *Antrophyum* being cæspitose.

26. Dictyoglossum, *J. Sm.*

(Acrostichi sp., *Sw.; J. Sm. Gen. Fil.*)

Venation uniform, reticulated, internal, areoles large, elongated, trapezoid hexagonal. Sporangia densely occupying the whole under side of the fertile frond, which is contracted.—Rhizoma cæspitose, decumbent, densely furnished with criniform palea. Fronds in vernation terminal, adherent, oval-elliptical, one foot or more in length, criniferous, fertile fronds shorter than the sterile, and somewhat contracted.

1. D. crinitum, *J. Sm.* Acrostichum crinitum, *Sw.*; *Hort. Kew.*; *Hook. et Grev. Ic. Fil.* t. 1.

27. Acrostichum, *L.* (*in part.*)

Tenation uniform, reticulated, areoles small, elongated, usually tetragonal and parallel. Sporangia densely occupying the terminal segments of the frond. Rhizoma erect, cauliciform. Fronds pinnate, 3–8 *feet high:* pinnæ *entire, linear-lanceolate, smooth, the terminal ones fertile.*

1. A. aureum, *Linn.*; *Plum. Fil.* t. 104.
   Hab. West Indies, Tropical America, East Indian and Polynesian Islands. Raised in 1838.

28. Platycerium, *Desv.*

(Acrostichi sp., *Sw.*)

1. P. alcicorne, *Desv.*; *Sw.*; *Hort. Kew.*
2. P. Stemaria, *Desv.*; *Sw.*; *Hort. Kew.*
3. P. grande, *J. Sm.* Acrostichum grande, *A. Cunn.*
   Hab. New Holland and Malayan Islands. Introduced by — *Bidwill, Esq.*, 1842.

29. Cyrtogonium, *J. Sm.*

(Acrostichi sp., *Auct.*)

1. C. flagelliferum, *J. Sm.*; *Wall.*; *Hook. et Grev. Ic. Fil.* t. 23.
   Hab. East Indies. Introduced in 1828 by *Dr. Wallich.*

30. Gymnopteris, *Bernh.*; *J. Sm.*

(Acrostichi sp., *Auct.*)

1. G. nicotianæfolia, *Presl*; *Sw.* Acrostichum acuminatum, *Willd.*? *Plum. Fil.* t. 115.
   Hab. West Indies. Introduced by *Mr. Nath. Wilson* in 1843.

Tribe III. PTERIDEÆ, *J. Sm.*

Section I. Chilosoreæ, *J. Sm.*

31. Cheilanthes, *Sw.*; *J. Sm.*

* Micromeræ. *Fronds pinnate or bi-tripinnate, segments small, usually concave.*

1. C. micropteris, *Sw.*; *Syn. Fil.* p. 126 and 324. t. 3. f. 5.
   Hab. Quito. Received from *M. H. Lowe* in 1843.

2. C. viscosa, *Link.*
HAB. Mexico. Received from the Royal Botanic Garden of Berlin in 1841.
3. C. fragrans, *Sw.*; *Hort. Kew.*
4. C. spectabilis, *Kaulf.* C. Brasiliensis, *Radd. Bras. Fil.* t. 75.
HAB. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.
5. C. micromera, *Link.*
HAB. Mexico. Received from *Mr. Henderson* in 1844.
6. C. microphylla, *Sw.*; *Plum. Fil.* t. 58.
HAB. West Indies. Received from the Royal Botanic Garden of Berlin in 1841.
7. C. tenuifolia, *Sw.*; *Schk. Crypt.* t. 125.
HAB. East Indies. New Holland. Raised in 1824.
8. C. profusa, *Link.*
HAB. Cape of Good Hope. Received from *Mr. D. Cameron* in 1841.

** Actinopteris. *Fronds digitately radiate, rays pinnate.*

8. C. radiata, *J. Sm.* Adiantum radiatum, *L.*; *Sw.*; *Plum. Fil.* t. 100.
HAB. West Indies and tropical America. Cultivated in 1827.

OBS. The aspect of this species is that of *Adiantum*, but the fructification agrees with *Cheilanthes.*

CASSEBEERA, *Kaulf; J. Sm.*

1. C. farinosa, *J. Sm.* Pteris farinosa, *Sw.* Cheilanthes farinosa, *Hook. et Grev. Ic. Fil.* t. 134.
HAB. East Indies. Received from *J. Riley, Esq.* in 1840.
2. C. pedata, *J. Sm.* Pteris pedata, *Sw.*; *Schk. Crypt.* t. 100. *Bot. Mag.* t. 3247.
HAB. East and West Indies, and Islands of the Pacific Ocean. Raised in 1838.
3. C. auriculata, *J. Sm.*; Pteris auriculata, *Sw.*; *Hook. et Grev. Ic. Fil.* t. 116.
HAB. Cape of Good Hope. Raised in 1838.
4. C. pterioides, *Presl.* Cheilanthes pterioides, *Sw.*; *Hort. Kew.*
5. C. hastata, *J. Sm.* Pteris hastata, *Linn.*
HAB. Cape of Good Hope. Cultivated before 1822.
6. C. inframarginalis, *J. Sm.* Pteris inframarginalis, *Kaulf.*
HAB. Mexico. Received from the Royal Botanic Garden of Berlin in 1841.
7. C. cuneata, *J. Sm.* Cheilanthes cuneata, *Link.*
HAB. Mexico. Received from *Mr. D. Cameron* in 1845.

33. Platyloma, *J. Sm.*

(Pteridis sp., *Auct.*)

1. P. falcata, *J. Sm.*; *R. Br.*
   Hab. New Holland. Introduced in 1823 by *A. Cunningham, Esq.*
2. P. rotundifolia, *J. Sm.*; *Forst.*; *Schk. Crypt.* t. 99.
   Hab. New Zealand. Introduced by *Mr. John Edgerley* in 1841.
3. P. atropurpurea, *J. Sm.*; *Linn.*; *Hort. Kew.*
4. P. calomelanos, *J. Sm.*; *Sw.*
   Hab. Cape of Good Hope. Received from *Mr. Henderson* in 1843.
5. P. cordata, *J. Sm.*; *Cav.*; *Sw.*
   Hab. Mexico. Raised in 1842.
6. P. flexuosa, *J. Sm.*; *Kaulf.*; *Hook. Ic. Plant.* vol. ii. t. 119.
   Hab. Peru and Columbia. Raised in 1838.
7. P. ternifolia, *J. Sm.*; *Cav.*; *Hook. et Grev. Ic. Fil.* t. 126.
   Hab. Mexico. Received from *Mr. D. Cameron* in 1841.

34. Adiantum, *Linn.*

1. A. reniforme, *Linn.*; *Hort. Kew.*
2. A. macrophyllum, *Sw.*; *Hort. Kew.*
3. A. lucidum, *Sw.* A. obliquum, *Willd.*; *Hook. et Grev. Ic. Fil.* t. 190.
   Hab. Jamaica. Introduced by *Mr. Wm. Purdie* in 1844.
4. A. villosum, *Linn.*; *Hort. Kew.*
5. A. falcatum, *Sw.*
   Hab. Jamaica. Introduced by *Mr. W. Purdie* in 1844.
6. A. fovearum, *Radd. Bras. Fil.* t. 77. A.
   Hab. Brazil. Received from the *Messrs. Loddiges* in 1840.
7. A. Brasiliense, *Radd. Bras. Fil.* t. 76.
   Hab. Brazil. Received from the Royal Botanic Garden of Berlin in 1844.
8. A. pulverulentum, *Linn.*; *Hort. Kew.*
9. A. trapeziforme, *Linn.*; *Hort. Kew.*
10. A. cristatum, *Linn.*; *Plum. Fil.* t. 54.
    Hab. Jamaica. Introduced by *Mr. N. Wilson* in 1844.
11. A. tenerum, *Sw.*; *Hort. Kew.*
12. A. formosum, *R. Br.*
    Hab. New Holland. Introduced by *A. Cunningham, Esq.* in 1823.
13. A. hispidulum, *R. Br.*?
    Hab. New Zealand; New Holland. Introduced by *A. Cunningham, Esq.* in 1824.
14. A. pubescens, *Schk. Crypt.* t. 116. Adiantum pedatum, *Forst.*
    Hab. New Zealand. Raised in 1834.

15. A. setulosum, n. sp. Fronds bipinnate, the lower pinnæ bipartite, pinnules dimidiate, curved, oblong, obtuse, setiferous on the upper side, the superior margin obtusely crenate and seriferous; sori punctiform; indusium reniform.

Hab. Norfolk Island. Introduced in 1845 by *Dr. Mc' William*. Fronds one foot or more in height. Stipes next the base paleaceous, rachis glabrous.

Obs. This species has much the appearance of *A. pubescens*, but it differs in being smooth, and in the curved form of the pinnules, as also in being furnished with twelve or more black bristle-like hairs, which are produced between the veins on the upper surface, towards the lower margin and apex of the pinnules, with a few on the under side.

16. A. pedatum, *Linn.*; *Hort. Kew.*

17. A. curvatum, *Kaulf.*

Hab. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.

18. A. capillus-Veneris, *Linn.*; *Hort. Kew.*

19. A. assimile, *Sw. Syn. Fil.* t. 3. f. 4.

Hab. New South Wales. Introduced by *A. Cunningham, Esq.*, in 1823.

20. A. cuneatum, *Lang. et Fisch. Ic. Fil.* t. 26. *Hook. et Grev. Ic. Fil.* t. 30.

Hab. Brazil. Received from the Royal Botanic Garden of Berlin, in 1841.

21. A. concinnum, *Willd.*

Hab. Venezuela. Received from the Royal Botanic Garden of Berlin in 1841.

35. Doryopteris, *J. Sm.*

(Pteridis sp. *Auct.*)

1. D. sagittifolia, *J. Sm.*; *Radd. Bras. Fil.* t. 63. f. 1 and 2.
Hab. Brazil. Introduced by *George Gardner, Esq.*, in 1841.
2. D. palmata, *J. Sm.*; *Willd.*; *Radd. Bras. Fil.* t. 65. f. 2 and 3. t. 66, 66 *bis*.
Hab. Brazil. Received from the *Messrs. Loddiges* in 1840.

36. Litobrochia, *Presl.*; *J. Sm.*

(Pteridis sp. *Auct.*)

1. L. grandifolia, *J. Sm.*; *Linn.*; *Hort. Kew.*
2. L. denticulata, *Presl.*; *Sw.*; *Hook. et Grev. Ic. Fil.* t. 28. Pteris Brasiliensis, *Radd. Bras. Fil.* t. 86 *bis*.
Hab. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.
3. L. leptophylla, *J. Sm.*; *Sw.* Pteris spinulosa, *Radd. Bras. Fil.* t. 70.
Hab. Brazil. Raised in 1834.

4. L. polita, *J. Sm.*; *Link.*
HAB. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.

5. L. aculeata, *Presl.*; *Sw.*; *Hort. Kew.*

6. L. podophylla, *J. Sm.*; *Sw.*; *Hort. Kew.*

7. L. vespertilionis, *J. Sm.*; *Lubill. Nov. Holl.* vol. ii. t. 245.
HAB. New Holland; New Zealand. Raised in 1838.

OBS. Representatives of this species are found very generally throughout the tropics and extra-tropical regions of both hemispheres; and, as they present some peculiarities both in habit and venation different from the genuine species of *Litobrochia*, I think they may, with some degree of propriety, be constituted into a separate group, under the title of Agardh's sectional name *Histiopteris*.

37. CAMPTERIA, *Presl.*

(Pteridis sp. *Auct.*)

1. C. biaurita, *J. Sm.* Pteris biaurita, *Linn.* (fide specim. in herb. Linn. Soc.). *Plum. Fil.* t. 15. (?)
HAB. West Indies. Introduced from Jamaica by *Mr. W. Purdie* in 1842.

OBS. There appears to me to be an interminable confusion of synonymes as regards this species, which I find impossible to quote with any degree of satisfaction; it is sufficient to know that the specimens now before me are identical with the specimens in the Linnæan Herbarium. Plumier, fig. Tab. 15, is quoted for this species, but in my opinion that figure as correctly represents another West Indian species which is only known from the present by the difference in venation, the present having (agreeable to the generic character) the lower pairs of venules anastomosing, whereas, in the other species alluded to, the veins are all free, and, as Plumier's figure does not represent the venation satisfactorily, it is difficult to say to which it ought to be referred.

2. C. nemoralis, *J. Sm.* Pteris nemoralis, *Willd.*
HAB. East Indies. Received from the Royal Botanic Garden of Berlin in 1841.

OBS. In my 'Enumeration and Characters of the Genera of Ferns', I did not consider *Campteria* of Presl, to be sufficiently distinct to merit a separate genus, but I now admit it solely on the grounds that it may be considered to form the transition from the free venation of true *Pteris*, to the reticulated form that characterizes *Litobrochia*.

38. Pteris, *Linn.* (in part.)

1. P. longifolia, *Linn.*; *Hort. Kew.*
2. P. Cretica, *Linn*; *Schk. Crypt.* t. 90.
   Hab. South of Europe; East and West Indies. Cultivated in 1820.
3. P. umbrosa, *R. Br.*
   Hab. New Holland. Introduced by *A. Cunningham, Esq.*, in 1824.
4. P. serrulata, *Linn.*; *Hort. Kew.*
5. P crenata, *Sw.*; *Burm. Zeyl.* t. 87. Pteris Chinensis, *Hort. Angl.*
   Hab. East Indies. Cultivated in 1822.
6. P. heterophylla, *Linn.*; *Plum. Fil.* t. 37.
   Hab. Jamaica. Introduced by *Mr. W. Purdie* in 1844.
7. P. felosma, *nov. spec.* Fronds pinnate, pinnæ sessile, lanceolate, deeply pinnatifid, the apex caudate and entire, the lower pair bipartite, costæ spinulose on the upper side, laciniæ linear-lanceolate, obtuse, entire, slightly falcate; veins forked close to the costula, free, the lower pair terminating in the sinus of the laciniæ.

Hab. Jamaica. Cultivated in 1822. Fronds two to three feet high, rising from an erect rhizoma. Pinnæ six to eight inches long, terminated by an entire, lanceolate cauda. The whole plant, on bruising it when fresh, emits a peculiar smell.

Obs. This is an old inhabitant of our hot-house, propagating itself freely by its sporules. It has been long known by the names of *P. Plumierii* and *P. nemoralis*, but the latter is given under *Campteria*, and as Plumier's figure, t. 15, is also quoted for *Campteria biaurita*, which can only be known as distinct from the present species by the anastomosing of the lower veins, and which characterizes *Campteria* from true *Pteris*, I therefore view this as an undescribed species; and as my attention has often been called to it by its peculiar smell, I have chosen to designate it by the above name. I possess native specimens of the same from Jamaica.

8. P. sulcata, *Hort. Berol.*

Obs. My first knowledge of this species was on receiving, in 1836, from Mr. Otto of Berlin, a dried specimen bearing the above name, and in 1841 we received a living plant from the same source. I do not find it noticed in Link's 'Enumeration of the Ferns of the Berlin Garden'. It is so much like the preceding that I hesitated whether it was truly distinct; its chief difference is in the smaller size, and in being quite destitute of the smell that so readily distinguishes *P. felosma*, and as the differences are constant under cultivation, I am, induced to look upon them as two distinct species.

9. P. arguta, *Vahl*; *Willd.*; *Hort. Kew.* P. palustris, *Poir.*; *Willd.* Mongonia palustris, *Presl, Pterid.*
HAB. Madeira (Hort. Kew, 1778). Portugal, *Dr. Welwitch*, 1845.

10. P. Kingiana, *Endlich. Fl. Norfolk Island.*
HAB. Norfolk Island. Introduced by *A. Cunningham, Esq.*, in 1831.

11. P. lata, *Link.*
HAB. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.

12. P. tremula, *R. Br.*; Pteris chrysocarpa, *Link.* (*non Hook. et Grev.*)
HAB. New Holland and New Zealand. Introduced by *A. Cunningham, Esq.*, in 1827.

13. P. caudata, *Linn.*; *Hort. Kew.*

14. P. aquilina, *Linn.*; *Hort. Kew.*

39. ONYCHIUM, *Kaulf.*

1. O. lucidum, *Spreng.* Leptostegia lucida, *D. Don, Fl. Nep.*
HAB. East Indies. Nepal, *Wallich.* Received from *Mr. H. Loue* in 1844.

40. LOMARIA, *Willd.*

Stegania, *R. Br.*

1. L. Patersoni, *Spreng.*; *R. Br.*
HAB. Van Diemen's Land. Raised in 1830.

2. L. lanceolata, *Spreng.*; *R. Br.*; *Hook. Ic. Plant.* t. 429.
HAB. Van Diemen's Land. New Zealand. Raised in 1833.

3. L. alpina, *Spreng.*; *R. Br.* L. Antarctica, *Carm.*
HAB. Van Diemen's Land. New Zealand. Cape Horn. Falkland Islands. Introduced by *Dr. Jos. Hooker.*, in 1843.

4. L. Spicant, *Desr.* Blechnum boreale, *Sw.*; *Hort. Kew.*

5. L. nuda, *Willd.* Onoclea nuda, *Labill. Nov. Holl.* t. 246.
HAB. Van Diemen's Land: Introduced by *R. Gunn, Esq.*, in 1845.

6. L. onocleoides, *Spreng.*
HAB. West Indies. Introduced from Jamaica by *Mr. W. Purdie.* in 1843.

7. L. attenuata, *Willd.*
HAB. Mauritius. Received from the Royal Botanic Garden of Berlin in 1841.

8. L. procera, *Spreng.*; *R. Br.*; *Hook. Ic. Fil.* t. 427.
HAB. New Holland. Van Diemen's Land and New Zealand. Raised in 1833.

9. L. Gilliesii, *Hook. et Grev. Ic. Fil.* t. 207.
HAB. Chili. Received from the Royal Botanic Garden of Berlin in 1841.

10. L. Magellanica, *Desr.* L. robusta, *Carm.* L. setigera, *Gaud.* L. zamioides, *Gard. MSS.* (*specimen n.* 5936). L. obtusifolia, *Presl.*

Hab. Tierra del Fuego, Falklands and other Islands of the Southern Ocean. Introduced by *Dr. Jos. Hooker* in 1843.

Obs. On comparing specimens of this fern from different localities, we find that it is a native of Chili and the island of Juan Fernandez, also of Rio Grande and the Organ Mountains in Brazil; and that it grows even as far north as British Guiana, and at the small island of Tristan d'Acunha, to the east. On the Organ Mountains it produces a thick caudex, four feet high, which with the fronds on the top have much resemblance to some species of *Zamia*.

11. L. Fraseri, *A. Cunn.*; *Hook. Ic. Fil.* t. 185.
Hab. New Zealand. Introduced by *W. Colenso, Esq.*, in 1843.

41. Blechnum, *Linn.*

1. B. glandulosum, *Kaulf*; *Kunze in Schk. Crypt.* t. 58. f. 2.
Hab. Brazil. Raised in 1833.
2. B. Brasiliense, *Desv.*; *Kaulf. En. Fil.*
Hab. Brazil. Raised in 1834.
3. B. Corcovadense, *Radd. Bras. Fil.* t. 60.
Hab. Brazil. Raised in 1834.

Obs. This, and another form raised by J. Riley, Esq., are probably not distinct as species from *B. Brasiliense*.

4. B. triangulare, *Link.*
Hab. Mexico. Received from the Royal Botanic Garden of Berlin in 1841.
5. B. australe, *Linn.*; *Hort. Kew.*
6. B. hastatum, *Kaulf.* B. trilobum, *Presl*; *Hook. et Grev. Ic. Fil.* t. 192.
Hab. Chili. Received from the Royal Botanic Garden of Berlin in 1841.
7. B. gracile, *Kaulf.*
Hab. Brazil. Raised in 1834.
8. B. Lanceola, *Sw.*; *Radd. Bras. Fil.* t. 60. f. 3. *Hook. in Bot. Mag.* t. 3240. *Kunze in Schk. Crypt.* t. 57. f. 1.
Hab. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.
9. B. trifoliatum, *Kaulf.*
Hab. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.
10. B. intermedium, *Link.*; *Kunze in Schk. Crypt.* t. 57. f. 2.
Hab. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.

Obs. Although I have enumerated the three above as dis-

tinct species, still I am inclined to think that they are only different forms of one. *B. Lanceola* is the only one of which I possess native specimens, which are quite simple; but, cultivated, it often assumes the trifoliate character.

11. B. longifolium. *Humb.*; *Hook. in Bot. Mag.* t. 2818.
    Hab. Trinidad. Raised in 1833.
12. B. occidentale, *Linn.*; *Hort. Kew.*
13. B. striatum, *R. Br.*
    Hab. New Holland. Raised in 1833.
14. B. serrulatum, *Rich.*; *Schk. Crypt.* t. 108 (*non Willd.*). B. angustifolium, *Willd.* B. stagninum, *Radd. Bras. Fil.* t. 64. B. calophyllum, *Langs. et Fisch. Ic. Fil.* t. 23.
    Hab. Brazil. Guiana. Received from *Mr. D. Cameron* in 1841.

42. Doodia, *R. Br.*

1. D. aspera, *R. Br.*; *Hort. Kew.*
2. D. caudata, *R. Br.* D. rupestris, *Kaulf.*; *Link.*
    Hab. New Holland. Raised in 1830.
3. D. lunulata, *R. Br.*
    Hab. New Zealand. Raised in 1834.
4. D. blechnoides, *A. Cunn.* D. maxima, *J. Sm. in Loud. Hort. Brit. and Gen. Fil.*
    Hab. New Holland. Raised in 1835.

43. Woodwardia, *Sm.*

1. W. onocleoides, *Willd.* W. floridana, *Schk. Crypt. Fil.* t. 111.
    Hab. North America. Received from the *Messrs. Loddiges* in 1830.
2. W. radicans, *Sw.*; *Hort. Kew.*
3. W. Virginica, *Sw.*
    Hab. North America. Cultivated in 1834.

Obs. The venation of this species is more of the character of *Doodia*, but in habit it agrees best with *Woodwardia*.

Tribe IV. ASPLENIEÆ,

Section 1. Orthophlebieæ.

44. Scolopendrium, *Sm.*

1. S. officinarum, *Sm.*; *Hort. Kew.*
    Var. 1, *crispa*. Var. 2, *multifida*. Var. 3, *undulata*. Var. 4, *ramosa*.

45. Diplazium, *Sw.*; *J. Sm.*

1. D. plantagineum, *Sw.*; *Schk. Crypt. Fil.* t. 85.
   Hab. Brazil. West Indies. Received from the Royal Botanic Garden of Berlin in 1841.
2. D. grandifolium, *Sw.*; *Hort. Kew.*
3. D. Shepherdi, *Presl*; *Schk. Crypt. Fil.* t. 76, fig. only.
   Hab. Jamaica, and other of the West Indian Islands; also Brazil. Cultivated in 1822.
4. D. coarctatum, *Link.*
   Hab. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.
5. D. decussatum, *J. Sm.* Asplenium decussatum, *Wall.*
   Hab. Nepal. Raised in 1840.
6. D. striatum, *Presl.* Asplenium striatum, *Linn.*; *Hort. Kew.*
7. D. arborescens, *Sw.*
   Hab. St. Helena. Received from the *Messrs. Loddiges* in 1838.
8. D. thelypteroides, *Presl.* Asplenium thelypteroides, *Mich.*
   Hab. North America.

46. Asplenium, *Linn.*

* Asplenia vera.

1. A. serratum, *Linn.*; *Hort. Kew.*
2. A. crenulatum, *Presl.* Asplenium Nidus, *Radd. Bras. Fil.* t. 53. A. Brasiliense, *Hort.* (*non Sw.*)
   Hab. Brazil and other parts of South America. Received from the *Messrs. Loddiges* in 1836.

Obs. It is a question with me whether this is really distinct from *A. serratum*. In a state of cultivation I have not observed it to have the sharp serratures which are characteristic of native specimens of *A. serratum*, but which I find are not always constant.

3 A. palmatum, *Lam.*; *Schk. Crypt. Fil.* t. 66.; *Hort. Kew* (sub. *Asplenium Hemionitis*).
4. A. oligophyllum, *Kaulf.*
   Hab. Brazil. Introduced by *G. Gardner, Esq.*, in 1841.
5. A. angustifolium, *Mich.*; *Hort. Kew.*
6. A. lucidum, *Forst.*; *Schk. Crypt. Fil.* t. 72.
   Hab. New Zealand. Introduced by *Mr. John Edgerley* in 1843.
7. A. compressum, *Sw.*
   Hab. St. Helena. Introduced by *Mr. Thos. Fraser* in 1825.
8. A. obtusatum, *Forst.*; *Schk. Crypt. Fil.* t. 68.
   Hab. Van Diemen's Land. Received from the *Messrs. Osborn* in 1843.

9. A. obtusifolium, *Linn.*; *Hook. et Grev. Ic. Fil.* t. 239. *Plum. Fil.* t. 67.
   Hab. Jamaica. Introduced by *Mr. Nath. Wilson* in 1844.
10. A. salicifolium, *Linn.*; *Plum. Fil.* t. 60.
   Hab. Jamaica. Received from *Mr. D. Cameron* in 1841.
11. A. Otites, *Link.*
   Hab. Brazil. Received from the Royal Botanic Garden of Berlin in 1841.
12. A lætum, *Sw.*; *Schk. Crypt. Fil.* t. 70.
   Hab. West Indies.
13. A. marinum, *Linn.*; *Hort. Kew.*
14. A. flabellifolium, *R. Br.*
   Hab. New Holland. Introduced by *A. Cunningham, Esq.*, in 1823.

** Trichomaneæ.

15. A. Trichomanes, *Linn.*; *Hort. Kew.*
16. A. ebenum, *Ait.*; *Hort. Kew.*
17. A. monanthemum, *Linn.*; *Willd.*; *Hort. Kew.*
18. A. formosum, *Willd.*
   Hab. Caraccas. Received from the Royal Botanic Garden of Berlin in 1841.
19. A. viride, *Huds.*; *Hort. Kew.*
20. A. Pretrarchæ, *Dec.*; *Hook. et Grev. Ic. Fil,* t. 152.
   Hab. South of France. Received from *Mr. J. Henderson.*

*** Dareæ.

21. A. flaccidum, *Forst.*; *Schk. Crypt. Fil.* t. 82.
   Hab. New Zealand. Introduced by *Mr. John Edgerley* in 1843.
22. A. bulbiferum, *Forst.*
   Hab. New Zealand. Introduced by *Mr. John Edgerley* in 1843.
23. A. diversifolium, *A. Cunn.*
   Hab. Norfolk Island. Introduced by *A. Cunningham, Esq.*, in 1831.
24. A. rhizophorum, *Willd.*; *Hort. Kew.*
25. A. Cicutaria, *Sw.*; *Plum. Fil.* t. 48.
   Hab. Jamaica. Introduced by *Mr. W. Purdie* in 1843.
26. A. viviparum, *Presl.* Darea, *Willd.* Cœnopteris vivipara, *Berg.*
   Hab. Mauritius. Received from the *Messrs. Rollinsons* in 1844.

**** Acropteræ.

27. A. septentrionale, *Linn.*; *Hort. Kew.*
28. A. alternifolium, *Sw.* A. germanicum, *Willd.*; *Hort. Kew.*
29. A. præmorsum, *Sw.*; *Hort. Kew.*
30. A. Canariense, *Willd.*
   Hab. Teneriffe. Cultivated in 1822.

31. A. falcatum, *Sw.*
HAB. East and West Indies; St. Helena; New Holland, &c. Introduced by *Mr. W. Purdie* in 1843.

32. A. polyodon, *Forst.*
HAB. New Zealand. Introduced by *Mr. John Edgerley* in 1843.

33. A. Serra, *Lang. et Fisch. Ic. Fil.* t. 19.
HAB. Brazil. Received from the *Messrs. Loddiges* in 1844.

***** Ruta-murariæ.

34. A. Ruta-muraria, *Linn.*; *Hort. Kew.*
35. A. lanceolatum, *Huds.*; *Hort. Kew.*
36. A. Adiantum-nigrum, *Linn.*; *Hort. Kew.*
37. A. fragrans, *Sw.*; *Hort. Kew.*
38. A. acutum, *Willd.*
HAB. Teneriffe. Cultivated in 1822.
39. A. planicaule, *Wall.*
HAB. East Indies. Received from *Mr. D. Cameron* in 1841.

****** Athyrieæ.

40. A. fontanum, *Sm.*; *Hook.* Aspidium fontanum, *Sw.*; *Hort. Kew.* Athyrium fontanum, *Roth.*; *Presl. Pterid.*
41. A. Felix-fœmina, *Bernh.*; *Hook.* Aspidium, *Hort. Kew.*
42. A. umbrosum, *J. Sm.* Allantodia umbrosa, *R. Br.* Aspidium, *Hort. Kew.*
43. A. axillare, *J. Sm.* Aspidium axillare, *Hort. Kew.*
44. A. Brownii, *J. Sm. Gen. Fil.* Allantodia australis, *R. Br.*
HAB. New Holland. Introduced by *A. Cunningham, Esq.*, in 1824.

Section II. SYMPLOPHLEBIEÆ.

47. CETERACH, *Willd.*; *J. Sm.*

1. C. officinarum, *Willd.* Grammitis Ceterach, *Sw.*; *Hort. Kew.*

48. NEOTTOPTERIS, *J. Sm.*

1. N. vulgaris, *J. Sm. Gen. Fil.* Asplenium Nidus, *Linn.*; *Hook. Bot. Mag.* t. 3101.
HAB. Many parts of the eastern hemisphere and New Holland. Introduced by *A. Cunningham, Esq.*, in 1825.

49. ANTIGRAMMA, *Presl.*; *J. Sm.*

1. A. rhizophylla, *J. Sm.* Asplenium rhizophyllum, *Linn.*; *Hort. Kew.*

50. Callipteris, *Bory*; *J. Sm.*

1. C. Malabarica, *J. Sm.* Diplazium malabaricum, *Spreng.* Diplazium Seramporense, *Spreng.* Diplazium pubescens, *Link.* Asplenium ambiguum, *Sw.*; *Schk. Crypt. Fil.* t. 75 *b.* (non 75. *a*). Anisogonium Seramporense, *Presl.* Digrammaria ambigua, *Presl.*

Hab. Many parts of the East Indies. Cultivated in 1822.

Tribe V. ASPIDIEÆ, *J. Sm.*

Section I. Symplophlebieæ, *J. Sm.*

51. Aspidium, *Sw.*; *Schott.*; *J. Sm.*

1. A. trifoliatum, *Sw.*; *Hort. Kew.* Polypodium trifoliatum, *Linn. Sp. Plant.* and *Herb. in Linn. Soc. Lond.* (*exclusive* t. 148. *Plumier's Fil.*). Aspidium heracleifolium, *Willd.*; *Plum. Fil.* t. 147.
2. A. macrophyllum, *Sw.*; *Plum. Fil.* t. 145.

Hab. West Indies and tropical parts of South America. Received from the *Messrs. Loddiges* in 1836.

52. Sagenia, *Presl.*

1. S. coadunata, *J. Sm. Gen. Fil.* Aspidium coadunatum, *Wall.*; *Hook. et Grev. Ic. Fil.* t. 202.

Hab. East Indies; Ceylon. Introduced by *G. Gardner, Esq.*, in 1845.

53. Onoclea, *Linn.*

1. O. sensibilis, *Linn.*; *Hort. Kew.*

54. Cyrtomium, *Presl.*

1. C. falcatum, *Presl.* Aspidium falcatum, *Sw.*; *Thunb. Fl. Jap.* t. 35.

Hab. Japan. Raised in 1838.

55. Fadyenia, *Hook.*

1. F. prolifera, *Hook. et Bauer, Gen. Fil.* t. 53 B. Aspidium proliferum, *Hook. et Grev. Ic. Fil.* t. 96.

Hab. Jamaica. Introduced by *Mr. W. Purdie* in 1843.

56. Nephrodium, *Schott.*

1. N. molle, *R. Br.*; *Schott. Gen. Fil.* t. 22; *Schk. Crypt. Fil.* t. 34 *b.*

Hab. Tropics of both hemispheres. Cultivated in 1820.

2. N. unitum, *R. Br.* Aspidium, *Hort. Kew.*
3. N. terminans, *J. Sm.* Aspidium terminans, *Wall.* N. Cumingii, *J. Sm. En. Fil. Philipp.* n. 186.

Hab. East Indies; Philippine Islands; Ceylon. Introduced by *G. Gardner, Esq.*

4. N. augescens, *J. Sm.* Aspedium augescens, *Link.*

Hab. Cuba. Received from the Royal Botanic Garden of Berlin in 1841.

Section II. Orthophlebieæ, *J. Sm.*

57. Woodsia, *R. Br.*

1. W. Ilvensis, *R. Br.* Polypodium Ilvensis, *Hort. Kew.*
2. W. hyperborea, *R. Br.* Polypodium hyperboreum, *Hort. Kew.*
3. W. obtusa, *Hook.* Polypodium obtusum, *Sw.*; *Schk. Crypt. Fil.* t. 21. Woodsia Perriniana, *Hook. et Grev. Ic. Fil.* t. 68.

Hab. North America. Cultivated in 1836.

4. W. mollis, *J. Sm.* Physematium molle, *Kaulf.*; *Kunze, Analect. Pterid.* t. 27.

Hab. Mexico. Received from the Royal Botanic Garden of Berlin in 1841.

58. Cystopteris, *Bernh.*

1. C. tenuis, *Schott.* Aspidium, *Sw.*; *Schk. Crypt. Fil.* t. 53 *b.* Aspidium atomaria, *Willd.*

Hab. North America. Cultivated in 1822.

2. C. bulbifera, *Bernh.* Aspidium bulbiferum, *Sw.*; *Hort. Kew.*
3. C. fragilis, *Bernh.* Aspidium fragile, *Sw.*; *Hort. Kew.*
4. C. regia, *Presl.* Aspidium regium, *Sw.*; *Hort. Kew.*
5. C. dentata, *Hook.* Aspidium dentatum, *Sw.*; *Hort. Kew.*

Obs. I have enumerated the above as species merely because they are given as such by the authors of the 'Hortus Kewensis'; for, from the examination of numerous specimens from many different countries, we find it quite impossible to point out any character whereby to distinguish them. Exclusive of *C. bulbifera*, the whole appear to be merely different forms of *C. fragilis*.

59. Lastrea, *Presl.*; *J. Sm.*

(Aspidii sp. *Sw.*; Nephrodii sp. *Auth.*

1. L. decurrens, *J. Sm.*; *spec. nov.* Fronds lanceolate, pinnate, pinnæ alternate, sessile, pinnatifid, decurrent and lobed, forming a sinuose winged rachis; laciniæ obtuse; veins pinnate; sori medial; indusium small, becoming soon obsolete; sporangia aculeate; rhizoma cæspitose-

decumbent. Fronds 1 to 1½ feet high, rachis strigose, paleaceous, the lower pinnæ small, entire. It is *Polypodium decursive-pinnatum*, Hort. Ang.
HAB. China. Received from *Mr. D. Cameron* in 1841.

OBS. My first knowledge of this fern was from a specimen presented to me in 1834, by the late A. B. Lambert, Esq., who had received it amongst a collection of dried plants from China. In 1841 I observed it in a living state in the Birmingham Botanic Garden, but have not learned by whom it was introduced into this country.

On referring to my observations under the tribe *Aspidieæ*, and also under the genera *Lastrea* and *Nephrodium*, in the 4th vol. of the 'Journal of Botany', it will be seen that I have noticed the difficulty that sometimes occurs in determining whether certain species belong to *Aspidieæ* or to *Polypodieæ*, the presence or absence of an indusium being the technical distinction; but, on account of the small size and fugacious nature of that organ, its absence is not always a proper test to rely upon. This is peculiarly the case with the present species; for, on examining specimens in herbaria, it will, without hesitation, be referred to the tribe *Polypodieæ*; yet, on carefully viewing it in its nascent state, a small ciliate indusium is observable, which is soon concealed by the enlargement of the sporangia.

2. L. Thelypteris, *Presl; Sw.; Hort. Kew.*
3. L. noviboracensis, *Presl; Sw.; Hort. Kew.;*
4. L. Oreopteris, *Presl; Sw.; Hort. Kew.*
5. L. chrysoloba, *Presl.* Aspidium chrysolobum, *Link.*
   HAB. Brazil. Received from the *Messrs. Loddiges* in 1841.
6. L. vestita, *J. Sm.* Polypodium vestitum, *Rudd. Bras. Fil.* t. 36.
   HAB. Brazil. Received from the *Messrs. Loddiges* in 1845.
7. L. contermina, *Presl.* Aspidium conterminum, *Willd.*
   HAB. West Indies and many parts of tropical America. Raised in 1835.
8. L. invisa, *Presl; Sw.*
   HAB. Jamaica. Cultivated in 1830.
9. L. patens, *Presl; Sw.; Hort. Kew.*
10. L. Filix-mas, *Presl; Sw.; Hort. Kew.*
11. L. marginalis, *Presl? Sw.; Hort. Kew.*
12. L. elongata, *Presl; Sw.; Hort. Kew.*
13. L. cristata, *Presl; Sw.; Hort. Kew.*
14. L. intermedia, *Presl; Willd.*
    HAB. North America. Cultivated in 1838.
15. L. spinulosa, *Presl; Sw.; Hort. Kew.*
16. L. dilatata, *Presl; Sw.; Hort. Kew.*

17. L. recurva, *Newm.*
Hab. Britain.

Obs. By some botanists this is considered only as a variety of *L. dilatata.** In cultivation it appears to maintain a more dwarf and rigid habit than the usual form of *L. dilatata.*

18. L. eburnea, *J. Sm.* Aspidium eburneum, *Wall.* Polypodium oxyphyllum, *Wall.*
Hab. Nepal. Received from *J. Riley, Esq.*, in 1842.

Obs. In some states this may be taken for a *Polypodium*, but I have observed a slight indusium when examined in a young state.

19. L. villosa, *Presl*; *Sw.*
Hab. Jamaica. Introduced by *Mr. Nath. Wilson* in 1844.
20. L. decomposita, *J. Sm.* Nephrodium decompositum, *R. Br.*
Hab. New Holland. Introduced by *A. Cunningham, Esq.*, in 1825.
21. L. pubescens, *Presl*; *Sw.*; *Hort. Kew.*; *Hook. et Grev. Ic. Fil.* t. 162.

Obs. The genus *Lastrea*, as at present constituted, contains a considerable number of species, varying much in size and circumscription of their fronds, the position of the sori and nature of the rhizoma, which on a revision of the genus may afford sufficient characters for grouping the species. Although there are very distinct and well-marked characters, between what may be considered the genuine species of *Lastrea* and *Polystichum*; yet of other species it is difficult to say to which of these two genera they really belong, and the last enumerated species may be cited as an instance.

60. Polystichum, *Roth* (*in part*); *J. Sm.*

(Aspidium *sp. Sw.*)

1. P. rhizophyllum, *Presl*; *Sw.*; *Hook. et Grev. Ic. Fil.* t. 59.
Hab. Jamaica. Introduced by *Mr. W. Purdie* in 1843.
2. P. acrostichoides, *Schott*; *Sw.*; *Schk. Crypt.* t. 30.
Hab. North America. Cultivated in 1820.
3. P. falcinellum, *Presl*; *Sw.*
Hab. Madeira. Cultivated in 1820.
4. P. mucronatum, *Presl*; *Sw.*; *Schk. Crypt.* t. 29 *b.*
Hab. Jamaica. Cultivated in 1838.

* There can be no doubt of this being the same with *Nephrodium Fœnesecii*, of the Rev. Mr. Lowe's 'Flora of Madeira,' published in 1834.—Ed.

5. P. Lonchitis, *Roth*; *Schott. Gen. Fil.* t. 9; *Sw.*; *Hort. Kew.*
6. P. auriculatum, *Presl*; *Sw.*; *Hort. Kew.*
7. P. aculeatum, *Roth*; *Sw.*; *Hort. Kew.*
8. P. lobatum, *Presl*; *Sw.*; *Hort. Kew.*

Obs. Writers on British ferns differ much in opinion as to the specific distinctions between what is called *Polystichum aculeatum* and *P. lobatum*; but a much wider field is open for this kind of controversy if they would but take a general view of the whole series of ferns constituting this group of *Aspidieæ*, representatives of which are found widely dispersed over the earth, being found in elevated regions within the tropics, and extending into the higher latitudes of both hemispheres. As might be expected, these different localities produce forms more or less differing from each other, the extremes presenting characters sufficiently well marked, to be considered as of specific value; but on taking a comprehensive view of the whole group, a transition of form is readily traced, beginning with the least compound (*P. Lonchitis*) and passing through *P. lobatum* and *P. aculeatum* into forms more highly compound, constituting such a series that it becomes most difficult to say what is a species, and what may be only a variety dependent on the nature of the locality; and, although in many instances, we see something in the habit and aspect sensibly different from another form, yet words fail to convey to our minds the distinction.

9. P. pungens, *Presl*; *J. Sm.*; *Kaulf.*
   Hab. Cape of Good Hope. Introduced by *Mr. James Bowie* in 1823.
10. P. proliferum, *J. Sm.*; *R. Br.*
   Hab. Van Diemen's Land. Received from the *Messrs. Osborne* in 1843.
11. P. vestitum, *Presl*; *Schk. Crypt.* t. 43.
   Hab. New Zealand. Introduced by *J. Edgerley* in 1842.
12. P. Capense, *J. Sm.*; *Willd.*
   Hab. Cape of Good Hope. Introduced by *Mr. J. Bowie* in 1823.
13. P. drepanum, *Presl*; *Schk. Crypt.* t. 43 *b.*
   Hab. Madeira. Cultivated in 1822.
14. P. æmulum, *Presl*; *Sw.*; *Hort. Kew.*
15. P. hispidum, *J. Sm.*; *Sw.*; *Schk. Crypt.* t. 42.
   Hab. New Zealand. Introduced by *W. Colenso, Esq.*, in 1845.
16. P. aristatum, *Presl*; *Sw.*; *Schk. Crypt.* t. 42.
   Hab. Norfolk Island. Introduced by *A. Cunningham, Esq.*
17. P. coniifolium, *Presl*; *Wall.*
   Hab. East Indies; Ceylon; Philippine Islands. Introduced by *G. Gardner, Esq.*

62. Didymochlaena, *Desv.*

1. D. truncatula, *J. Sm.* Aspidium truncatulum, *Sw.* Didymochlaena sinuosa, *Desv.*

Hab. Tropics of South America, and Malayan Islands. Received from the *Messrs. Loddiges* in 1838.

63. Cyclopeltis, *J. Sm.*

(Aspidii sp. *Sw.* Lastreæ sp. *Presl.*)

Veins thrice dichotomously branched. Venules free direct, the lower anterior and exterior ones fertile. Sporangia medial or terminal. Sori round, furnished with an orbicular peltate indusium and disposed in two transverse rows. Rhizoma cæspitose. Fronds pinnate, from one to three feet high, pinnæ falcate-lanceolate, smooth, four to five inches long, sessile, irregularly cordate or auriculated at the base and articulate with the rachis.

1. C. semicordata, *J. Sm.* Aspidium semicordatum, *Sw.*; *Plum. Fil.* t. 113.

Hab. Jamaica and other of the West Indian Islands. Introduced by *Mr. N. Wilson* in 1844.

Obs. It has often occurred to me, that the *Aspidium semicordatum* of Swartz, did not well associate with any of the numerous species of *Lastræa*, under which genus it has been placed by Presl, as well as by myself in my 'Genera Filicum'; and it was not till recently that I had the opportunity of examining a living plant, which led me to separate it from *Lastræa*. I find that it belongs to that peculiar group of ferns which have the pinnæ distinctly articulated with the rachis; and, on viewing its whole character, I have no hesitation in placing it in affinity with *Nephrolepis*, differing from that genus in the cæspitose character of its rhizoma, and in having a double series of sori on both sides of the mid-rib. It also, in habit and venation, forms another affinity with *Poloma* and *Leptopleura* in the tribe *Dicksoniæ*.

Besides the above cited species, there is another from the island of Luzon, which is so similar in appearance that Presl considered it the same as Swartz's species from the West Indies; but, on comparing the two, it will be seen that they differ in the position of the sori: the Luzon plant having *terminal* fructifications, and the West Indian plant *lateral*. In my 'Enumeration of the Philippine Island Ferns', in the 3rd vol. of the 'Journal of Botany', I named the Luzon plant *Lastræa Presliana*; but, by some inadvertency in wording the passage relating to the position of the sori, it is made to appear the reverse of what is

now given: and although the position of the sori constitutes a very distinguishing character, yet, on account of the similarity in every other point, I cannot view the difference in position otherwise than of specific value.

64. Nephrolepis, *Schott*; *J. Sm.*

1. N. pectinata, *J. Sm.*; *Willd.* Aspidium trapeziforme, *Schk. Crypt.* t. 29 (*non Sw.*).
   Hab. West Indies. Received from the Royal Botanic Gardens of Berlin in 1841.
2. N. undulata, *J. Sm.*; *Sw.*
   Hab. Sierre Leone. Introduced by the Right Hon. The Earl of Derby, in 1844.
3. N. tuberosa, *Presl.*
   Hab. East Indies. Received from the Royal Botanic Garden of Berlin in 1841.
4. N. exaltata, *Schott*; *Sw.*; *Hort. Kew.*

Tribe VI. DICKSONIEÆ.

Section I. Lindsææ.

65. Lindsæa, *Dry.*; *J. Sm.*

1. L. Guianensis, *Dry.*
   Hab. Guiana. Introduced by *H. Cadogan Rothery, Esq.*, in 1845.

Section II. Davallieæ, *J. Sm.*

66. Davallia, *Sw.*; *J. Sm.*

1. D. pyxidata, *R. Br.*; *Hort. Kew.*
2. D. Canariensis, *Willd.*; *Hort. Kew.*
3. D. solida, *Sw.*; *Schk. Crypt.* t. 126.
   Hab. East Indies and islands of the Pacific Ocean. Received from *Mr. H. Lowe* in 1844.
4. D. gibberosa, *Sw.*; *Schk. Crypt.* t. 188.
   Hab. Islands of the Pacific Ocean.
5. D. elegans, *Sw.* D. bidentata, *Schk. Crypt.* t. 127.
   Hab. East Indies and Philippine Islands. Received in 1844 from *Mr. D. Cameron.*

Section III. Trichomaneæ, *J. Sm.*

67. Trichomanes, *Linn.*

1. T. radicans, *Sw.* T. brevisetum, *R. Br.*; *Hort. Kew.*
2. T. quercifolia, *Hook. et Grev. Ic. Fil.* t. 115.
   Hab. Jamaica. Introduced by *Mr. W. Purdie* in 1844.
3. T. spicatum, *R. Hedw.* T. elegans, *Rudge* (*in part*) *Hook. Ex. Fl.* t. 52.
   Hab. Jamaica and other West India Islands. Introduced by *Mr. W. Purdie* in 1844.

68. Hymenophyllum, *Sm.*

1. H. Tonbridgense, *Sm.*; *Hort. Kew.*
2. H. Wilsoni, *Hook. Engl. Bot. Supp.* t. 2686.
   Hab. Britain and many other parts of the world.

Section IV. Dicksoniæ, *J. Sm.*

69. Sitolobium, *Desv.*; *J. Sm.*

Dicksoniæ sp. *Sw.*; *Hook.*

1. S. punctilobum, *J. Sm.* Nephrodium punctilobum, *Mich.* Dicksonia pubescens, *Schk. Crypt.* t. 131.
   Hab. North America. Cultivated in 1822.
2. S. adiantoides, *J. Sm.*; *Plum. Fil.* t. 30.
   Hab. West Indies. Brazil and other parts of South America. Raised in 1834.
3. S. davallioides, *J. Sm.*; *R. Br.*
   Hab. New Holland. Raised in 1833.
4. S. rubiginosum, *J. Sm.*; *Kaulf.*
   Hab. Brazil. Raised in 1841.

70. Balantium, *Kaulf*; *J. Sm.*

1. B. Culcita, *Kaulf*; *J. Sm.*; *Hort. Kew.*

71. Dicksonia, *L'Herit.*

1. D. arborescens, *L'Herit.*; *Hort. Kew.*
2. D. Antarctica, *Labill. Fl. Nov. Holl.* t. 249.
   Hab. New Holland. Introduced by *A. Cunningham, Esq.*, in 1824.
3. D. squarrosa, *Sw.*; *Schk. Crypt.* t. 130.
   Hab. New Zealand. Introduced by *Mr. J. Edgerly*, in 1842.
4. D. dissecta, *Sw.*; *Hort. Kew.*

72. Cibotium, *Kaulf.*; *J. Sm.*

1. C. Barometz, *J. Sm.* Aspidium Barometz, *Hort. Angl.* Cibotium glaucescens, *Kunze in Schk. Crypt. Suppl.* t. 31.

Hab. China. Introduced by *J. Reeves, Esq.* Received from the *Messrs. Loddiges* in 1834.

2. C. Schiedei, *Schlecht. in Linnæa*; *Hook. Sp. Fil.* t. 30. A.
Hab. Mexico. Introduced by *Mr. Hartweg* in 1846. Received from the Horticultural Society.

Tribe VII. CYATHEÆ, *J. Sm.*

73. Hemitelia, *R. Br.*; *J. Sm.*

1. H. horrida, *R. Br.*; *Hook. Sp. Fil.* t. 15.
Hab. Jamaica and others of the West Indian Islands. Introduced by *Messrs. Wilson* and *Purdie* in 1843.

74. Cyathea, *Sw.*; *J. Sm.*

1. C. arborea, *Sw.*; *Hort. Kew.*
Hab. Jamaica. Introduced by *Mr. N. Wilson* in 1843.
2. C. elegans, *Hew.*
Hab. Jamaica. Introduced by *Mr. N. Wilson* in 1843.

75. Alsophila, *R. Br.*; *J. Sm.*

1. A. Capensis, *J. Sm.* Hemitelia Capensis, *R. Br.*
Hab. Cape of Good Hope. Introduced by *Mr. Zeyher* in 1845.
2. A. Hostmanni, *J. Sm.*; Hemitelia Hostmanni, *Hook. Sp. Fil. Ic. Plant.* t. 646.
Hab. Guiana. Introduced by *H. Cadogan Rothery, Esq.*, in 1845.
3. A. aspera, *R. Br.*; *Hook. et Bauer Gen. Fil.* t. 22.
Hab. Jamaica. Raised in 1834.
4. A. ferox, *Presl.*
Hab. Guiana. Introduced by *H. Cadogan Rothery, Esq.*, in 1845.
5. A. pruinata, *Kaulf.* Polypodium pruinatum, *Sw.*; *Hort. Kew.*

Division II. GLEICHENIACEÆ, *R. Br.*

76. Gleichenia, *Sw.*

1. G. microphylla, *R. Br.*
Hab. New Holland and Van Diemen's Land. Introduced by *R. Gunn, Esq.*, in 1845.

77. Mertensia, *Willd.*

1. M. flabellata, *J. Sm.* Gleichenia flabellata, *R. Br.*
Hab. New Holland and Van Diemen's Land. Introduced by *R. Gunn, Esq.*, in 1845.

Division III. SCHIZÆACEÆ, *Mart.*

78. Lygodium, *Sw.*

1. L. palmatum, *Sw.*
   Hab. North America. Introduced by *Dr. Asa Grey* in 1845.
2. L. scandens, *Sw.*; *Hort. Kew.*
3. L. flexuosum, *Sw.* L. dichotomum, *Sw.*?; *Hook. et Grev. Ic. Fil.* t. 55.
   Hab. East Indies. Cultivated in 1834.
4. L. venustum, *Sw.* Hydroglossum hirsutum, *Willd.*
   Hab. Tropics of South America. Introduced in 1845 by *H. Cadogan Rothery, Esq.*
5. L. Japonicum, *Sw.*
   Hab. Japan. Cultivated in 1830.
6. L. articulatum, *A. Cunn.*
   Hab. New Zealand. Introduced by *W. Colenso, Esq.*, in 1844.

79. Anemia, *Sw.*

1. A. hirsuta, *Sw.*; *Plum. Fil.* t. 162. *Hort. Kew.*
2. A. hirta, *Sw.*; *Plum. Fil.* t. 157. A. collina, *Radd. Bras. Fil.* t. 12.
   Hab. Brazil and other tropical parts of South America. Raised in 1840.
3. A. Raddiana, *Link.* A. flexuosa, *Radd. Bras. Fil.* t. 13 (*non Sw.*?)
   Hab. Brazil. Raised in 1844.
4. A. tenella, *Sw.*; *Schk. Crypt.* t. 141.
   Hab. West Indies and Tropics of South America. Introduced by *Mr. W. Purdie* in 1843.
5. A. adiantifolia, *Sw.*; *Hort. Kew.*

Obs. This species is peculiarly distinct from the rest of the genus, by its having a true creeping rhizoma.

80. Anemidictyon, *J. Sm.*

(Anemiæ sp., *Sw.*)

1. A. phyllitidis, *J. Sm.*; *Sw.*; *Plum. Fil.* t. 156.
   β. longifolia. A. longifolia, *Radd. Bras. Fil.* t. 8.
   γ. fraxinifolia. A. fraxinifolia, *Radd. Bras. Fil.* t. 8 *bis.*
   Hab. West Indies and tropics of South America. Raised in 1829.

81. Mohria, *Sw.*

1. M. thurifraga, *Sw.*; *Schk. Crypt.* t. 143.
   Hab. Cape of Good Hope. Received from the Royal Botanic Garden of Berlin in 1841.

Division IV. OSMUNDACEÆ, *Mart.*

82. Osmunda, *Linn.*

1. O. cinnamomea, *Linn.*; *Hort. Kew.*
2. O. Claytoniana, *Linn.*; *Hort. Kew.*
3. O. regalis, *Linn.*; *Hort. Kew.*
4. O. spectabilis, *Willd.*

Hab. North America. Introduced before 1820.

83. Todea, *Willd.*

1. T. Africana, *Willd.*; *Hort. Kew.*
2. T. rivularis, *Sieb.* T. australasica, *A. Cunn.*

Hab. New Holland. Introduced by *A. Cunningham* in 1825.

3. T. pellucida, *Carm. in Hook. Ic. Fil.* 1. t. 8.

Hab. New Zealand. Introduced by *Mr. J. Edgerley* in 1842.

Division V. MARATTIACEÆ, *Kaulf.*

82. Maratha, *Sm.*

1. M. alata, *Sm.*, *Hort. Kew.*
2. M. cicutæfolia, *Kaulf.*

Hab. Brazil. Received from the *Messrs. Loddiges* in 1843.

3. M. elegans, *Endlich.*

Hab. Norfolk Island and New Zealand. *A. Cunningham.* Received from the *Messrs. Loddiges* in 1843.

391 species

ERRATA.

Page 15, line 3 from the bottom, for "*venation*" read "*vernation*".

Page 18, first line, for "*Aretium*" read "*Anetium*" and the same three times following.

Page 36, at 11th line from the bottom, for "*Poloma*" read "*Isoloma*".

JOURNAL OF A BOTANICAL MISSION TO THE WEST INDIES AND NEW GRENADA;

BY WILLIAM PURDIE,

Collector for the Royal Gardens of Kew; in letters addressed to the Editor.

(Continued from '*London Journal of Botany*,' vol.iv. p. 27.)

The mission of Mr. Purdie being mainly connected with Horticulture and the introduction of new and rare plants to our Gardens, it has been thought advisable to insert the information concerning it, in the 'Companion to the Botanical Magazine', rather than continue it in the 'London Journal of Botany.' The Mission has now terminated by Mr. Purdie having been appointed, by the Secretary to the Colonies, to the Curatorship of the Botanic Garden of Trinidad, vacant through the death of Mr. Lockhart. I here gladly record my testimony to the excellent conduct of Mr. Purdie during the whole of his arduous undertaking of more than three years duration, to the number of new and rare and beautiful plants he has been the means of introducing into our Gardens, and I offer my warmest thanks to the many individuals, whose names will be here recorded, who have rendered him important services, in furthering the object of his journey.

Royal Gardens, Kew, Nov. 1st, 1846.

Kingston, Jamaica, April 22nd. 1844.

Since I last wrote, I have visited the *Lace Bark* District, in order to procure perfect specimens of the tree, accompanied by your friend Dr. Bromfield, F.L.S., but am sorry to say my success has been very small; for, to my surprise, I found the trees in precisely the same state as they were five months previously. There was no appearance of recent growth; but several gentlemen, residing in different parts of the island, have promised to procure flowering specimens and to send them to Dr. Macfadyen, so that I hope the season will not pass without their being obtained. The season of inflorescence is the end of May, and it continues not later than June. The first time I saw these trees was in September, when I discovered a dry raceme, but neither blossom nor fruit, beyond a few capsules, which I detected by searching among the fallen leaves on the ground, and which I now send home. A single capsule, still growing on the tree, enabled me to indentify those which I picked up; else, in the dense woods of Jamaica, I might easily have made a mistake among the numerous seeds, of various kinds, which strew the soil, under, perhaps, one and the same tree.

In my journey through St. Ann's, I gathered some seeds and plants which were new to me, and which are ready to go home by next Packet. Two small boxes are now despatched, their contents

as follows: no. 1, Seeds of a beautiful and remarkable Palm, allied to the Cocoa-nut (*Cocos nucifera*), and resembling it in general appearance. Its noble pinnated leaves are, however, presented edge-wise to the stem, which is robust, $2\frac{1}{2}$ feet in diameter, and about ninety feet high, bearing large clusters of fruit in compact bunches, not unlike grapes. The kernels are eaten as Cocoa-nuts, being sweet and wholesome, but difficult to break. The spadix and spatha are pendulous on long footstalks, and the inflorescence is monœcious, male and female flowers growing on distinct spadices. The stem being very rough, I could not induce my people to climb the tree, though they unhesitatingly ascend the Cocoa-nut Palm; but I secured the best specimens that could be procured, from which you may form some conception of this stately tree. I shall be glad if the nuts vegetate, and will feel obliged by your informing me if the mode of packing, now adopted, proves successful. As you were pleased with a little *Burmanniaceous* plant, which I formerly transmitted, I now send some growing tufts of it, enclosed in a Bamboo; when transplanted, I expect they will readily vegetate. I think to have formerly mentioned that it affects spots where there has been fire, at some distant period, and where it grows covered with moss and Lichens. In my subsequent journeys, this fact was confirmed; for, in Manchester and Clarendon Districts, I since gathered this interesting little species in several widely distant localities, but always where the vegetation had been burnt; often on the mountains at an elevation of 2,500 feet.

Dr. Bromfield is much pleased with Jamaica. Perhaps you are aware of the dexterity with which this gentleman catches snakes. When walking with him in St. Ann's, I pointed out a fine Black Snake, lying under a stone wall, which he insisted on capturing alive, with his unprotected hand, in the belief that the reptile was innocuous, like the common ringed serpent of England; but it proved otherwise, the seizure was strictly mutual; the Black Snake fastened on his hand as he laid hold of it, and bit him severely. The wound swelled for some days, though with little pain, and no dangerous consequences ensued.

I think some of the *Orchideæ* from Westmoreland are not known in England. The species of *Broughtonia* grows on the coast here, and will require much heat. The specimens of the "Scarlet Seed", mentioned in Brown's 'Jamaica', are interesting; he supposed the plant to be a *Sloanea*, misled, probably, by not finding the corolla, which is singularly fugacious, dropping off directly after the blossom has expanded, when it is quickly devoured by insects, which seem to be attracted by the red

farinaceous powder that surrounds the seeds. There are also specimens of a *Sloanea*, of which I previously sent seeds. This noble tree appears to be imperfectly described. Its seeds are partially enveloped in a fleshy arillus of a yellowish (not scarlet) colour. I consider it highly improbable that any bird can break or pierce the capsules to obtain the seeds, both on account of their extreme hardness, and because the natural instinct of birds prevents them from attacking any unripe fruit. As soon as they become mature, the capsules of the *Sloanea* burst open and expose the delicately flavoured seeds. I have never seen the capsules perforated, though the tree is of common occurrence in Manchester, St. Ann's, and Hanover parishes, and they appear of a peculiarly indestructible nature, the ground being often strown with the capsules of many previous years.

Within the last few days, I have visited the Lagoon, near the ferry, in search of *Nelumbium Jamaicense*; but without success. *Nymphea Lotus* is common, and is the only individual of that tribe which I have seen. *Sagittaria lancifolia* is a showy aquatic.

I hope the seeds of the curious *Mimosa*-like water-plant have germinated. I lately obtained a quantity of seeds of *Lisianthus glaucifolius*, from the coast of St. Ann's: they should be raised in sandy peat.

If all is well, it is my intention to leave this Island for Santa Martha early next month. It will be necessary to furnish myself with fire-arms, Dr. Linden assuring me that it is unsafe to travel there without them. Dr. L. is just gone to Cuba, after a stay of nine weeks here; he considers Jamaica a poor country for botany; but I think without sufficient reason. I shall be anxious till I can hear that the Lace-Bark trees arrived safe and in good condition. My health happily continues good. The weather is dry and warm at Kingston, but rain has fallen in great abundance among the mountains.

(*To be continued.*)